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OCTOBER 23, 1907.

CONTENTS

Tuberculosis from Milk Supplies.....	459
A Tale of Two Cities—and Some Others.....	459
Sprinkling Filter Data.....	460
Tuckahoe's Sewage Disposal (Illustrated).....	461
A Novel Civic Primer.....	462
Municipal Markets. By Don E. Mowry.....	462
Mounted Police (Illustrated).....	465
News of the Municipalities.....	467
Legal News—A Summary and Notes of Recent Decisions.....	472
Municipal Appliances.....	473
News of the Societies.....	474
Personals.....	474
Book Reviews.....	475
The Week's Contract News.....	476
Trade Notes.....	483
Patent Claims.....	484
Incorporations.....	484

Tuberculosis from Milk Supplies

THE International Medical Congress, in session at Paris recently, has placed itself upon record as believing that tuberculosis may be conveyed to the human system through the digestive tract, milk being the agent in many cases, and recommends all public institutions to pasteurize milk used by them. The International Milk Congress, which met at Brussels in September, also endorsed and recommended pasteurizing. The prominence of tuberculosis in the mortality records of all countries is being given widespread and increasing recognition and the possibility and great desirability of eradicating or greatly reducing it is being forced into public recognition by societies in many countries. This matter of fighting the "white plague" was one of the chief subjects of discussion at the International Medical Congress, and the opinion seemed general that success could be secured only by attacking the sources of the disease. There was substantial agreement that it was especially desirable to prevent the use of unpasteurized milk except from cows known to be free from tuberculosis, reference being made to practical demonstrations that the dangers from dried

sputum carried in the air as dust were insignificant in comparison with those in milk from tuberculous cows.

It really seems as though, encouraged by the quick success obtained in fighting typhoid by water purification and malaria by mosquito extermination, great progress would be made from now on in the extermination of tuberculosis in the more civilized countries. In Frankfurt, Germany, the courts have recently substituted imprisonment for the fines previously imposed for violation of the milk regulations, to secure more thorough protection of consumers. Several States and cities in this country have taken an advanced stand looking toward the gradual extermination of tuberculosis from the cattle within their boundaries. A large part of the herd which furnishes the milk for the public institutions on Blackwell's Island was, the other day, ordered destroyed because of the discovery that they were infected with tuberculosis. Last spring the Board of Health of the town of Montclair, N. J., adopted regulations prohibiting the sale within its limits of milk from non-certified cows, which regulation has been accepted by all the dairies supplying milk to the citizens with the exception of one company, which pleads inability to comply with this provision. The enforcement of such a rule would probably cause a temporary increase in the price of milk, because of the somewhat increased expense and carefulness required of the producers. But it is believed that, once the dairy herds of the country have been pretty well freed of tuberculosis, the cost to the dairymen will not only not be greater, but will even be lessened, because of the increased healthfulness of their cattle. The more general the adoption and enforcement of such a rule, the more effective will such enforcement be in prohibiting tuberculosis, and the more quickly will the disease disappear from cattle everywhere. For as long as tuberculous cattle are excluded from only a few herds here and there the infection of the others from neighboring herds will continue. If the spread of the disease among human beings is certainly traceable to milk of tuberculous cattle—and the proof of this seems to be pretty well established—the sooner all communities adopt provisions similar to those of Montclair the better will it be for all concerned, the dairyman as well as the consumer.

A Tale of Two Cities—and Some Others

Two cities which have in the past acquired perhaps a higher reputation for street paving than any others—Paris, France, and Washington, D. C.—have recently been criticised as failing to maintain this reputation. Representatives of a Paris daily, in order to call attention to the poor condition of the pavements, recently placed three ducks in puddles formed by rain in the pavement of the Place de l'Opera, the holes being deep enough to permit the ducks to swim in them. This place is the center of the pleasure district of the city, where one would imagine especial attention would be paid to the appearance of the streets. Washington, D. C., was for years referred to as having a greater length of first-class asphalt pavements than any other city. In length she was some years ago surpassed, and Mr. MacVicar, Secretary of the League

of American Municipalities, last month quite severely criticised the character of her pavements. The explanation by the Washington Engineering Department was that Congress had withheld increased appropriations for repairs until recently, and that they had not since then had time to catch up with their repair work. There is possibly a significance in the word "increased," which apparently indicates that asphalt pavements cost more to maintain than they did some years ago. The experience of these two cities may serve to console certain others which are having trouble keeping their pavements in repair. As a matter of fact, this same trouble is being experienced in a very large number of cities in this country. Some of it is undoubtedly due to the fact that a considerable number of the older pavements have about reached the limit of their useful life; but we fear that much is to be attributed to defective construction and materials in new pavements, and to lax maintenance.

SPRINKLING FILTER DATA

Time Required by Sewage to Pass Through Such Beds— Experiments with Various Filtering Materials and at Different Rates

THE increasing use or proposed use of sprinkling or percolating filters gives special timeliness to a paper which William Clifford has contributed to the *Journal* of the Society of Chemical Industry, discussing the time of the passage of sewage through such beds. The ordinary method of determining this appears to have been to pour a quantity of colored liquid on the surface of the bed while in action and note the time elapsing before the first appearance of color at the outlet. There appears to be no reason, he says, why the first trace of a given dose appearing at the outlet should be taken to indicate the time of passage of that dose, any more than should the last trace. The actual time of passage he considers to be the average time occupied by all the molecules of the liquid. In an experiment based upon this idea a solution of common salt was used; an 18-inch earthenware pipe, filled with clean, washed and screened gravel which passed a one-inch and remained on a three-quarter-inch mesh formed a circular bed 18 inches in diameter and 2.4 feet deep. Water was applied by a tipping trough which emptied its contents into a perforated tray, which in turn distributed it over the bed. Tap water was used because sewage would have interfered with the test for chlorine. A uniform flow of 200 gallons per square yard per day (about 1,200,000 United States gallons per acre) was secured. After the bed had been in action for one hour, a solution of common salt of known chlorine content was substituted for one discharge of the trough, the amount being the same as the other discharges of ordinary water, and samples of the effluent were taken every fifth minute thereafter. In the earlier experiments samples were taken every minute, but this was found to be unnecessarily frequent. The aver-

age time of passage was obtained by calculating, by the method of moments, the mean frequency of the combined chlorine, after first reducing the amount by that present in the water previous to the addition of the solution. The material used in the filter in the various experiments consisted of various sizes of coal and gravel, and different rates of discharge were experimented with. The results are given in the following table:

Medium	Grade	Rate of Working in Gallons per Sq. Yd. per Day	Average Time of Passage Minutes
Coal.....	$\frac{3}{4}$ in.— $\frac{5}{8}$ in.	239	24.3
		180	31.7
		105	45.6
	$\frac{1}{2}$ in.— $\frac{3}{8}$ in.	307	26.4
		134	49.4
		228	34.0
	$\frac{3}{8}$ in.— $\frac{1}{4}$ in.	191	39.0
		129	63.6
		236	54.7
	$\frac{1}{4}$ in.— $\frac{1}{8}$ in.	181	64.3
		245	15.0
		200	17.6
Gravel...	1 in.— $\frac{3}{4}$ in.	154	22.0
		259	20.1
		194	31.5
	$\frac{3}{4}$ in.— $\frac{5}{8}$ in.	137	35.8
		250	31.2
		192	37.2
	$\frac{5}{8}$ in.— $\frac{1}{2}$ in.	166	40.0
		246	33.7
		197	40.0
	$\frac{1}{2}$ in.— $\frac{1}{4}$ in.	155	44.1

It does not appear that there was any material change in the time of passage when gravel was substituted for coal, but the size of the filtering material and the rate of application are shown to cause a very considerable variation.

In connection with this paper, the *Surveyor* quotes from a paper, "Nitrification of Sewage," by Dr. Read, the following, which refers to a filter composed of one-eighth inch particles and having a depth of 4 feet 6 inches and a rate of discharge of 200 gallons per square yard per day: "I may here mention that the rate of travel downwards of the sewage through the filter was found, as a result of several observations, to vary in accordance with the depths, as follows:

From	surface to	1 foot.....	12 minutes.
"	1 foot	" 2 "	" 12 "
"	2 "	" 3 "	" 6 "
"	3 "	" 4 "	" 6 inches..... 5 "
Total.....			
35			

"This is a slow rate of travel compared with the rate in the case of large particle filters, which, in my experience, in some cases allow the sewage to pass through the entire depth of from four feet to five feet in about four minutes. The rate of travel was ascertained by a series of observations, as follows: The delivery on the filter was stopped until the discharge pipes from the respective trays showed unmistakable signs of diminished flow, when it was started again; the period which elapsed before the discharge from the pipes was restored being taken as the time occupied in the passage downward of the sewage to the different depths."

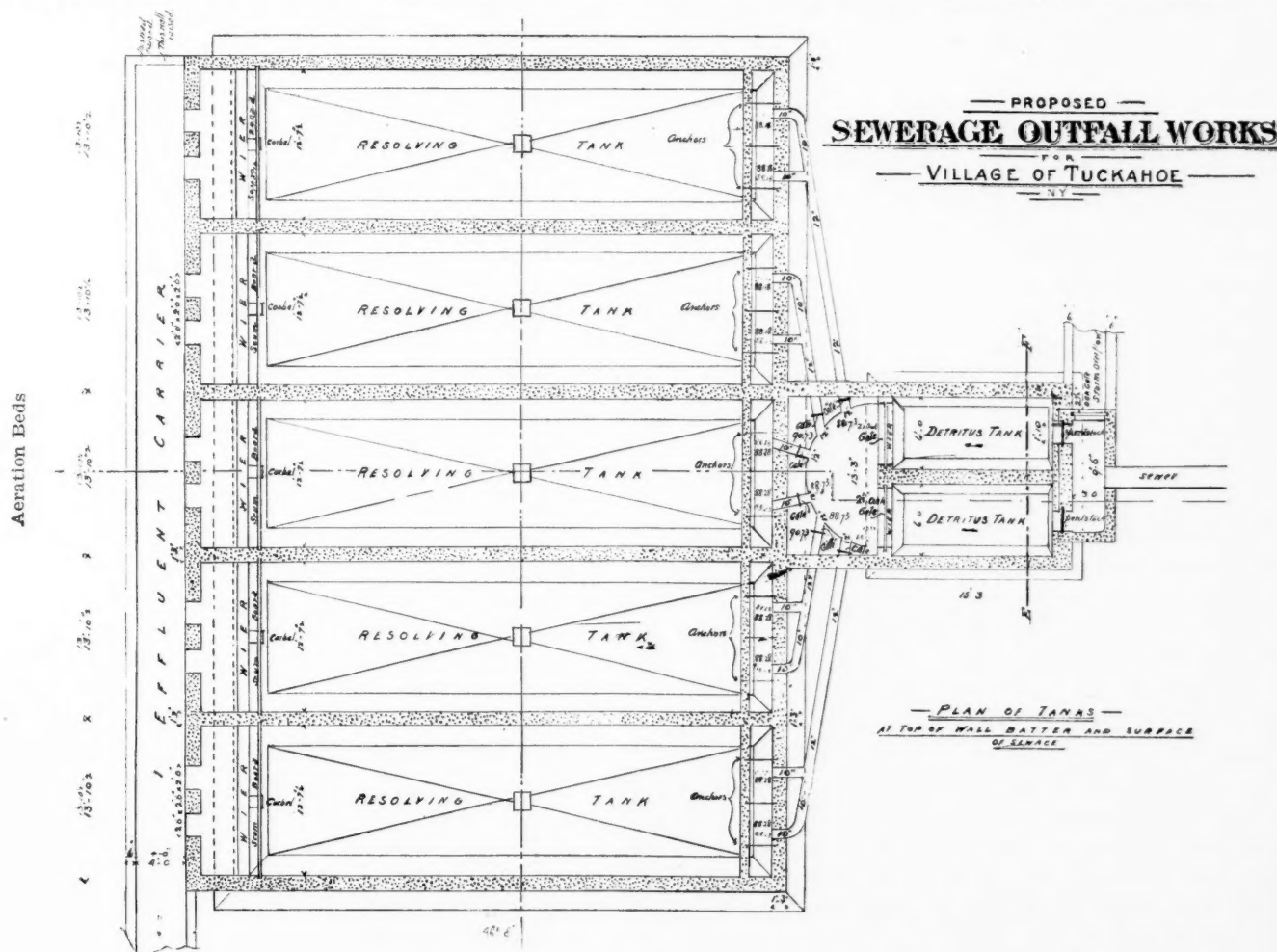
TUCKAHOE'S SEWAGE DISPOSAL

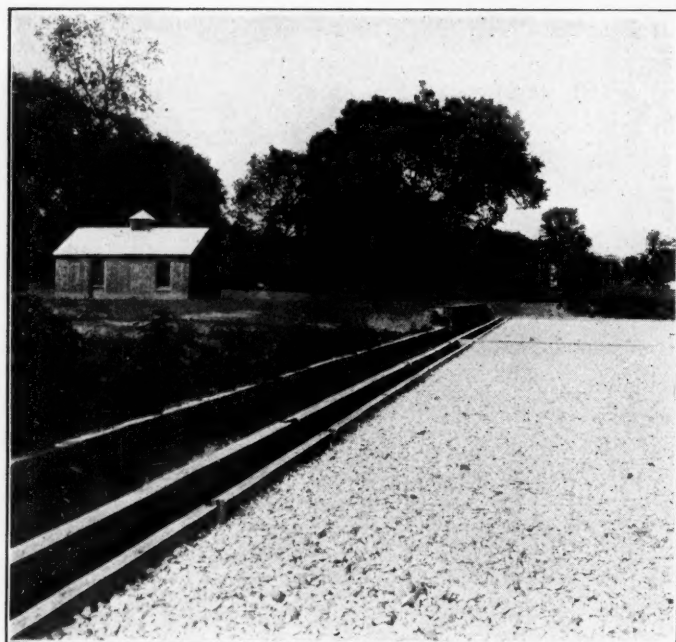
TUCKAHOE, N. Y., is a village of about 2,000 inhabitants, with an area one mile square, situated a few miles north of the northern boundary of New York City. The village is typically suburban in character, with but two large manufacturing interests, the Hodgman Rubber Company and the T. Wadelon Furniture Manufacturing Company. A small stream, the Bronx, flowing through the village, receives the discharge from several sewage disposal works from towns above, and it is not used for drinking purposes at any point below. Up to the present year the village owned no complete sewerage system, although there were drains emptying into the river. With the building of a complete sewerage system came the necessity for a disposal plant. The type chosen, that of septic tank and aeration beds, designed to deliver into the Bronx a non-putrescible effluent, contains some new features, made necessary by the slight fall between the highest possible grade of the main sewer and the lowest possible point of discharge into the river.

The main features of the works are two detritus tanks 14 feet by 2 feet by $4\frac{1}{2}$ feet; five resolving (or septic) tanks 42 feet by $11\frac{1}{2}$ feet by 9 feet, and two aeration beds each 100 feet square, with storm overflow, carriers and other necessary appurtenances. The difference in level between the bottom of the outfall sewer at its entrance to the detritus tank and the bottom of the effluent carrier as it leaves the aeration beds is only 3 feet 3 inches. The

outfall sewer discharges into a penstock 9 feet 6 inches long, 2 feet 9 inches wide and 4 feet deep, with gates leading into the detritus tanks. The two detritus tanks, which are covered with board floors, and their outlets to the resolving tanks are housed in by a small brick building 25 feet by 16 feet, 14 feet high, with a ventilator at the top. The walls of the detritus tanks are 4 feet wide at the base and $1\frac{1}{2}$ feet at the top. The floor is of 4-inch concrete sloping 9 inches from the side to the center. The tanks are $13\frac{1}{2}$ feet long and 9 feet wide at the top. The depth of sewage in the tank would ordinarily be about $4\frac{1}{2}$ feet. There is a storm water overflow from the penstock, so that during storms the water need not enter any part of the works. The outlets from the detritus tanks into the resolving tanks are through a chamber 13 feet 3 inches wide, in the shape of a half-circle, with two gates leading into the middle resolving tank, in the center line of the plant, and one outlet, dividing later into two, into each of the other resolving tanks. The function of the detritus tanks, as the name indicates, is simply to catch large or heavy objects, where they may be easily removed.

The five resolving tanks are all of the same size, 42 feet $11\frac{1}{2}$ inches long at the top, 12 feet 7 inches wide, and 9 feet high, designed to retain sewage to a depth of 7 feet 6 inches ordinarily. The walls are 5 feet 6 inches wide at the base and 1 foot 3 inches at the top. The roof is concrete and iron. The 7-inch I beams, spaced 4 feet 10 inches centers, are connected by $\frac{5}{8}$ -inch tie rods. The





DETRITUS TANK HOUSE, MAIN AND DISTRIBUTING CARRIERS AND AERATION BEDS

thickness of the concrete above the I beams is 2 inches at the eaves and 5 inches at the center of the tanks. Each tank has three manholes, one directly over the 8-inch brick baffle wall, through a gate in the bottom of which the sewage enters the main portion of the tank, one in the center over a sump in the floor and the third over the weir wall, where the scum board rests on a corbel. This third manhole also exposes to view the outlet, also roofed over, leading to the main carriers of the aeration beds. The floor of the resolving tanks is of 6-inch concrete, sloping one foot to a sump in the center which is 18 inches square and 12 inches in depth. The contents of each tank is about 50,000 gallons, and it is designed to handle an average of 30,000 gallons of sewage in 24 hours. Here about 25 per cent. of the sewage should be converted into gas—largely carbon dioxide—and disappear. The process is the ordinary septic action.

From the resolving tanks the partially purified sewage flows into the aeration beds, two in number, each one hundred feet square. These beds are fed by means of a main carrier 3 feet wide running alongside both beds and at right angles to the direction of discharge from the resolving tanks. The bed of the carriers is level. Parallel with the main carrier is the distributing carrier, also with level channel, and connected with the main carrier by seven openings, each provided with a gate. In the wall of the distributing carrier are 18 openings to equalize the distribution of sewage. The beds have concrete floors and walls, and are filled to a depth of 6 inches with $2\frac{1}{2}$ -inch broken stone, and are inclined 6 inches towards the side opposite the main and distributing carrier, where there is an effluent carrier leading into the river. In order still further to facilitate the distribution of sewage, three single rows of brick are set on the floor across the beds, the brick being on edge with slight intervals between them. The effluent carrier has a fall of a foot in its length of 200 feet, insuring quick discharge of the purified effluent.

The two aeration beds are estimated to be of sufficient capacity to permit oxidizing bacteria to transform the effluent from all five resolving tanks, a total of 150,000 gallons a day, into a non-putrescible effluent to pass the test of the New York State Board of Health. At the time of writing, connections for a population of about 600 only have been put in. The Village Engineer, George H. Rogers, designer of the works, calculates that about 36,000 gallons of sewage are now being treated. The total cost of the outfall works was about \$12,500.

A Novel Civic Primer

It is reported that "A Civic Reader for the New American" is to be published early in the autumn by the Boston School Board. The object of this reader is the instruction of the foreign-born population in the elements of citizenship and the knowledge of the government under which they have come to live. It is hoped in this way to counteract the instruction given by the local politician which generally leads them to look upon this as a "government of privilege—a great feeding-trough."

MUNICIPAL MARKETS

Boston, Baltimore, Chicago and New Orleans Market Buildings—The French System—Municipal Regulation in This Country Desirable

By DON E. MOWRY

THE change from rural to urban life in the United States has been so rapid that our cities have, apparently, neglected to make provision for one of the most important economic problems of city life, namely, the question of the food supply. The result has been that the individual has undertaken to supply the demand for food with partial success, although it is admitted that the cost of living in American cities is higher than in continental European cities, as a result of our non-interference with respect to the necessities of life. A few of our cities have taken up the movement for municipal markets, but the interest has been unenthusiastic on the part of the city's officials. Charlestown, New York, and other cities, including Boston, Baltimore and New Orleans, have partially established a market system. Yet in all of these cities the activity has not been commensurate with the local needs. In a word, then, we can say that municipal markets, as already established in the United States, are simply in their first stages of development.

Nowhere in this country is there a municipal market governed and controlled exactly as are those of Europe. The Boston market is, perhaps, the best in the country. There a public official, paid by the fees collected from the marketmen, is in charge. But this system is in no way complete. Prices are not regulated by a standard of value; a great deal of marketing is wholesale, the farmers and truck gardeners being anxious to dispose of their products quickly; and, what is more, the personal element in buying has been supplanted by the telephone. Shopping in Faneuil Hall in Boston hardly pays nowadays.

unless one has a large family or buys for a boarding-house. The utter lack of a statistical valuation of the commodities, and the establishment by the marketmen of a standard price upon which all business must be transacted, are partly responsible for the lack of any real benefit to the citizens from an economic standpoint.

In Baltimore the idea of a public market has spread, not because of any active regulation on the part of the city, but because the location of the city made a market a necessity. Here, as in Boston, no effort is made to regulate the stands; no provisions are made whereby all of the necessities of life will have stalls in the markets. The system is a very loose one, and all that seems to be regulated is the price of the stalls. The price asked for the products, as far as the city is concerned, is of no importance. The various markets are opened on different days of the week; but the same kinds of produce are found in the several markets, and, moreover, many marketmen rent stalls in different markets. These marketmen buy directly from the producers without the intervention of the middlemen. But should a producer, coming to Baltimore, desire to sell his products himself, he would find it necessary to line up his wagon along the street.

Chicago has no market buildings, simply a market place. It is, however, the closest market in the country. One can buy almost all products of the soil for less money there than elsewhere in America. The city is the fruit market for the world, due for the most part to its large railway facilities.

New Orleans furnishes, perhaps, the best example of a municipal market. The city operates four markets of its own, which yield \$10,000 a year, and also leases the right for \$186,000. In this instance the city possesses a monopoly, and the few private enterprises which exist are under the right of reversion to the city.

In spite of the conditions which appear to exist in the larger American cities where municipal markets have been established in a sort of a way, good financial returns have resulted. Boston nets a profit of \$60,000 a year; Baltimore, about \$50,000; New Orleans, something like \$79,000. But although municipalities have, in nearly every instance, the right to establish municipal markets, yet more than half of the cities of 100,000 and over have no municipal market buildings under city supervision. Of all the cities of from 25,000 to 100,000, hardly one-third have municipal markets and in nearly every case where the market halls are owned the stalls are rented to the dealers.

It will be seen at a glance that our markets are organized on the plan of the forestaller—a plan which has for its ultimate object the building up of a large private business. And these private interests are necessarily built up through the tax which the consumer must, of necessity, pay. While it is true that the cost of living in Baltimore, for example, is much lower than in any other Eastern city, it is not due to the fact that markets are fairly well established, but, on the other hand, to the geographic position of the city. And if the present markets in our large cities are to survive and be of lasting consequence to the community, it is absolutely necessary

that there be a systematic organization under municipal control. To-day, in towns and cities of the United States where markets are in operation, only a few truck farmers appear to offer their goods at retail, and many who do so are compelled to take possession the night before in order to have a stand in the morning.

As a contrast to this, practically all municipalities in continental Europe have monopolized the market rights, and the markets are subject to public control; the cities also reserving the right to originate new markets. Generally the market places are under roof and provision is made for each class of product. The rapid growth of the cities was largely the cause of the establishment of the modern municipal markets, since it compelled some action for insuring an ample food supply. But in America the commission merchant has assumed the supplying of the city populations. But, while this has been done with marked success, the new aspects of the food market become daily more perplexing. We are threatened by a danger which we hardly foresee—a monopoly of the necessities of life. The corner which the fruit growers of Michigan effected so successfully this fall has emphasized the situation which may confront us at any moment. If all our markets were organized like those of European cities, fruits could not have been sold at the price which the growers asked, but they would have been forced to realize only a reasonable profit; whereas, as it was, they raised the prices 25 per cent. and got them. The object of municipal markets, says E. Thomas, in an article on "Paris Stock Markets," is to get the price of provisions down to the minimum. Continental cities realize that the establishment of a market price is of as much importance as the question of the tariff. The object of the markets is likewise to insure an established relationship between the cities and the country, thereby making direct access to the city more easy for the farming communities.

Paris has, by far, the best markets in the world. The "Halles Centrales" in Paris is the great distributing point for the entire city. These halls, some ten in number, have a covered surface of 25,272 square meters, and an uncovered space of 9,045 square meters, or a total of 365,202 square feet. Three entire pavilions and three half pavilions are devoted to the wholesale trade, and the remainder to the retail trade. The outside space is devoted to fruits and vegetables. The management of the halls is under the control of the Department of the Seine, but is really under the immediate supervision of the Paris Police Department. The sales are conducted by persons called representatives of the shippers, appointed by the police, the middleman's commission being thus avoided. These representatives receive a certain percentum, fixed by law, for their services in the conducting of the sales, which are usually by auction. The books and records of sale are always subject to inspection by the proper authorities. Such sales benefit both the producer and the consumer. Commission houses have established themselves about the halls, but their business is separate and independent of the public markets. They are prosperous and, as auction sales are very common, there is nothing to prevent their buying on their own account.

Sanitation in these markets is perfect. In the fish market fish can be bought alive, and provisions are made for salt and fresh water tanks. An efficient staff of inspectors examine all arrivals of merchandise, and that which is unfit for sale is seized and condemned. A fee is charged for every privilege, although many are very small. A charge is made for keeping in the cold storage cellars below the "halles" goods not sold; "street hawkers," who buy from the retail market, pay for spaces in the street leading to the market.

Direct dealing between producer and consumer is general to a large extent. The wholesale dealer sets his price according to that of the market, which is law. The price set in Paris is the price for the surrounding country, and special agents are engaged in reporting the prices to Belgium, Spain, parts of Germany, and other neighboring districts. These agents are divided into two classes, the free commissioners and the *facteurs*. The former are independent and work upon "their own hook," to use the common expression. The *facteurs* are appointed by the Board of Trade and must give security for faithful reports, and agree to engage in no other business while acting in this capacity. They note the general business done, report on the same, giving a copy to the prefect of Paris. If they desire to give credit to a buyer, it is upon their own responsibility. In a word, they are the rulers of the market price, for it is by their figures that the price is made. State officials superintend the sales and auctions. Such auctions can be conducted in the markets by anyone who conforms to the regulations and pays the regular fee.

In other sections of Paris are other smaller markets which are open on certain days. These smaller markets handle, for the most part, goods which are unsold at the central halls, and for this reason the price is somewhat higher. The only drawback to the entire system is the fact that transportation facilities are not the best. All goods must be hauled to the halls during the night, thus increasing the cost of the products.

George Baden Powell, in a monograph of "State Help and State Intervention," says, in commenting upon the French system of markets, which is typified by the general conditions in Paris, that the markets are open to the whole world, thus making it possible for the farmer to raise that which will bring the best market value. The ease with which the producer can reach the market of Paris insures him an assured price even before the goods are ready for market, for, if he does not care to go to market himself, the representative which he can select will insure to him the market price, minus the small fee which is charged for selling his products. The results derived from the Paris system are (1) regularity of standards of price and quality; (2) the exchange is for cash; (3) and the products are guaranteed by sanitary regulations.

In Belgium the market right is, by State law, vested in the communal councils, and the market places are usually owned by the town. In Antwerp, however, the right is privately owned, but the owners are subject to the regulations of the authorities. Brussels leases the right to

open-air markets but regulates the lessee in his rent charge and stallage. Rotterdam has two market halls valued at \$170,000. In Germany the movement was taken up later than it was in France or Italy. The Italian markets are far from ideal. In 1890, however, when the movement of population cityward was at its height, there were markets in Berlin, Breslau, Leipzig, and twelve other cities. Berlin has led the other German cities in this respect. In 1886 it had but one market, in 1894 fourteen, this number including municipal market buildings in different parts of the city. All the towns of Germany, with but few exceptions, have open-air markets. The German system has, for the most part, been taken from the French, although modifications have been made. Vienna has a central market over which the municipality has complete control. It is not in the center of the city and for this reason trade is somewhat hampered. The railway facilities, however, are better than those of Paris, for they connect directly with the market. This is of especial value in the receipt of foreign shipments to the city. The market buildings of Christiania are valued at \$350,000, while those of St. Petersburg are valued at nearly \$900,000.

London has no central market, the former custom of giving exclusive rights for market purposes to individuals having made the process of centralization a very difficult one for the London authorities, which do not regulate the sale, competition setting the price in nearly every instance. The people buy from the retail dealer, who bargains at the market centers. Covent Garden, where flowers and fruits are the chief things handled, is an exception to the general rule. Here, there is more direct dealing. Prices are set by Parliament. The peddler is usually found here buying his wares for street sales. Although private ownership is general in the cities, municipal ownership is most common in the rural communities, largely because grants of exclusive monopoly rights in the smaller towns were of little value at the time such grants were given by the Crown.

From what has already been said concerning American cities it would appear that our market conditions are on a lower plane than are those of the cities of Europe, where some effort has been made to insure the public good products at a fair price; and in all of whose large cities, with the exception of London, progress is being made.

But our cities must act with great caution in attempting the municipal regulation of markets. At the outset, simply the ownership of the market halls, the installation of proper officials, the preservation of sanitary conditions, and the assurance to the producer that he has a right to a place in the market, provided he is willing to pay the nominal fee, should be the only steps taken. It is of the utmost importance, however, that municipal governments realize the full importance of systematic organization. The market is, from the standpoint of economics and society, a necessity, and the time is near when we will realize this fact. If no effort is made to furnish the common people with the necessities of life at a reasonable price, the near future will see a corner in the food market. The fruit growers' corner was a step in this direction.

MOUNTED POLICE

Services Rendered by the Traffic Squad—By the Patrolman—Growth in Popularity—Cost of Equipment in Two Cities

IN the year 1889 the first mounted policeman made his appearance on the streets of New York City. Since that date the service has increased, until at the present time the number of these has reached 434. Largely as a result of the excellent work done by them, a similar service has been adopted in other American cities, where apparently equally satisfactory results have been obtained, judging from the rapid increase in the number of men. In the city of Cincinnati, O., for example, the Chief of Police asked in a recent report to have his force of twenty-eight increased to forty-eight. In Newark, N. J., where a force of sixteen men were employed last year, the number has been increased to twenty; and the Chief states that he wishes the number could be doubled. In New York City, and probably all cities, the men may be divided more or less definitely into two classes—traffic men and patrolmen who do regular tours in the outlying districts.

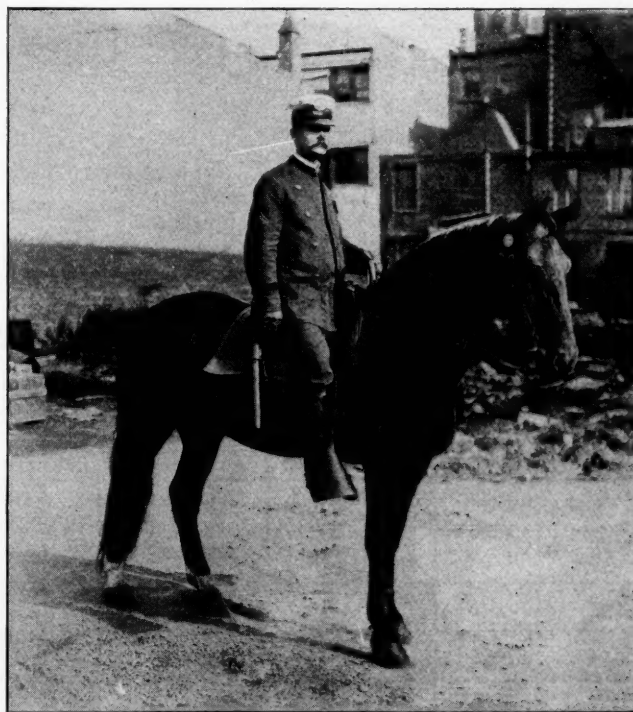


ONE OF NEW YORK'S TRAFFIC SQUAD

In this classification special duties, such as attending parades and public meetings, may be considered as traffic regulation. The traffic men are divided into squads, having special duties and hours of work which are largely determined by the demands of the post to which they are assigned. Certain of these men do not leave a single street intersection during the period of their tour, for work at which points they are more efficient than a footman because they can more easily see and be seen. If necessary, they can leave their station to pursue a refractory driver, but the value of traffic regulations is so well recognized by drivers themselves that they obey orders willingly. In handling crowds the mounted man is peculiarly efficient, in that he can force his trained animal

up against a crowd, thus gradually pushing the people back without harming anyone. Footmen attempting to do this work are apt to lose their temper, use their batons and get into trouble, but a horse is not disturbed by the nature of the language addressed to him. Mounted men assigned to duty in parks and boulevards, especially the speedways, are often the heroes of dramatic incidents in stopping runaways, and it is in this work that they are probably best known. Their most valuable work, however, is in the ordinary routine of traffic regulation, where their work has had the effect of reducing accidents to a notable extent, as is shown by the records.

In the patrolling of outlying districts mounted police do the ordinary routine work of patrolmen, but with greater efficiency. In this class of work in New York the men do tours in accordance with the regular schedule of the five-platoon system, which is figured on the basis of six hours on duty and six hours in reserve, these periods occurring at different times of the day and being arranged in a five-day cycle. The efficiency of the mounted man for this service depends largely on the ground that he can cover—one beat in New York is forty miles in length—and the speed he can develop in case of an emergency. For example, it is estimated that if a mounted policeman in the most remote precincts sees a fire he can reach an alarm box in two minutes. If an alarm is rung in any part of his territory he can reach it in ten minutes. A large part of the work of mounted men is of a special character, and very likely varies in different cities. In Newark, N. J., for instance, the traffic squad consists of five permanent members and fifteen patrolmen. The latter have certain beats, but schedules are not always adhered to on account of the large amount of special work that has to be done. In general, however, the Newark mounted officer spends eight hours



MEMBER OF NEWARK, N. J., MOUNTED FORCE

a day in the saddle. In that city there are factories located on the marshes at considerable distances from the settled portions of the city. When trouble occurs at one of these or an investigation is to be made there, the mounted man is dispatched to the work. Moreover, there are several trunk lines of railways going through the city, which are favorite highways for the genus hobo. These gentry require a good deal of attention, a duty which falls to the mounted man on account of the distance which has to be covered and the roughness of the ground. In fact, Chief Corbitt states that the special advantage of a mounted man in the suburbs consists in the fact that he can cover territory where the lack of sidewalks would make foot patrolling slow work.

The fact that the use of mounted police is coming into greater favor is shown by the increase in their numbers in recent years. The figures for the different boroughs of New York in 1906 and 1907 are:

NUMBER OF MOUNTED PATROLMEN		
	1906	1907
Manhattan	117	137
The Bronx	114	100
Brooklyn	93	114
Queens	33	59
Richmond	20	24
Total	377	434

There seems to be no doubt as to the efficiency of a mounted man both for traffic work and suburban patrol. But in considering the establishing of such a service the question of its cost is an important one. So far as salary is concerned, the footman and the mounted man are on the same basis. Three hundred dollars is the price estimated for the horse in and near New York, although sometimes animals are bought for a little less. In estimating the cost of the horse, one only is allowed per man, since indisposition in individual horses is offset by sickness and vacations among their riders. In the suburban district of New York, where the men work on regular tours, the five-platoon system allows a man six hours on active duty with his horse each day, but the man has his six hours of reserve duty, when the horse is in the stable. The cost of the care and feed of horses varies according to the local prices of feed and stable rent. The general custom is that each man takes care of his horse, so far as clean-

ing is concerned, but the stable is cared for by the department. The cost of shoeing the saddle horses in the New York Department is \$66 a year if shod with pads and \$36 a year if no pads are used. Each horse is shod on an average of once a month, but it often happens that a shoe is lost and extra shoeing is necessary.

Each man supplies his own clothing and small articles, just as the foot patrolman does, but the cost of equipping a horse is paid by the city. Tan colored saddle cloths and harness are used in New York. The price paid this year for the various pieces are as follows: Saddle, including stirrups and girth, \$15.75; bridle, \$5; leather saddle cloth, \$4.85; saddle pad, \$1.33; stable blanket, \$6.25; street blanket, \$7; total, \$40.18. In Newark, N. J., the Police Department is somewhat more liberal and, besides furnishing its men with higher-priced goods, also supplies articles which the Metropolitan policeman must purchase himself. The Newark equipment is quite different in appearance. The harness is black. Besides the leather saddle pad, the Newark officer has an indigo blue ornamental felt saddle pad. His saddle is larger—presumably easier on horse and man—an important item when it is considered that he spends two hours a day more in the saddle than does the New York officer.

The cost of equipment in Newark is as follows: Saddle (made by the Mehlbach Saddle Co., Newark, N. J.), \$26.80; bridle, \$10; leather saddle cloth, \$6; ornamented felt saddle pad, \$2.75; street blanket, \$9; stable blanket, \$6; club holster, \$1.25; Puttee leggings, \$3.20; total, \$65.

As to the expenses to which the man himself is put, in common with the unmounted officers, the figures this year for New York are as follows: Overcoat, \$28; dress coat, \$22.50; summer coat, \$14; winter trousers, \$8.50; summer trousers, \$7.50; cap with rubber cover, \$2; dress stick, 50 cents; night stick, 30 cents; revolver (a Colt or Smith & Wesson 32 caliber 4 1-2-inch barrel), \$10 to \$15; belt with frog, \$1.75; Puttee leggings, \$3.50; buckskin gloves, \$1.50; buttons and incidentals, \$1.50. The Newark police, whether mounted or unmounted, obtains his clothing at prices fixed by contract between the city and a private dealer. This cost averages a little below that paid by New York police.

5 PLATOON SYSTEM

FOR PATROLMEN

5 DAY CYCLE
6 HOUR TOURS
DOUBLE PATROL FROM 8 P.M. TO 8 A.M.

PATROL	1 ST DAY				2 ND DAY				3 RD DAY				4 TH DAY				5 TH DAY			
	2 A TO 8 A	8 A TO 2 P	2 P TO 8 P	8 P TO 2 A	2 A TO 8 A	8 A TO 2 P	2 P TO 8 P	8 P TO 2 A	2 A TO 8 A	8 A TO 2 P	2 P TO 8 P	8 P TO 2 A	2 A TO 8 A	8 A TO 2 P	2 P TO 8 P	8 P TO 2 A	2 A TO 8 A	8 A TO 2 P	2 P TO 8 P	8 P TO 2 A
RESERVE																				
OFF DUTY																				
1 ST PLATOON		X				X				X				X				X		
2 ND "	X				X				X				X				X			
3 RD "			X				X				X				X				X	
4 TH "				X				X				X				X				X
5 TH "			X				X				X				X			X		

SCHEDULE OF THE NEW YORK FIVE-PLATOON SYSTEM

NEWS OF THE MUNICIPALITIES

Divers Subjects of General Interest and Their Treatment by City Councils and Officials—Streets, Water Works, Lighting and Sanitary Matters—Police and Fire Items—Government and Finance

Roads and Pavements

BRIDGETON, N. J.—An ordinance providing for extensive street work was recently passed over the veto of Mayor Hampton, and Council directed him to execute the contract with John T. Deyer, of Philadelphia, Pa., who was the lowest bidder. The Mayor returned the contract, however, without his signature, declaring that the action was not for the best interest of the city, as the price was excessive. An effort to direct the Chairman of the Streets and Sidewalks Committee to execute the contract also failed, and Council found itself in the peculiar position of having accepted a bid and having no one in authority to execute the contract upon its part.

MOLINE, ILL.—City Council has passed an ordinance which makes it unlawful for any person or persons to apply brakes upon any wheel or wheels of any wagon or vehicle upon any paved street in the city of Moline on which street car track or tracks are laid, while either of the wheels of any one side, and of only one side, of such vehicle or wagon, are kept in or on any one of the rails of such street car tracks. The intention being to prohibit all coasting or braking of wagons or vehicles on all paved grades or hillsides and in a line directly parallel with and at a uniform distance from such tracks.

NEW YORK, N. Y.—Corporation Counsel Pendleton has advised Acting Borough President Thompson of Manhattan that the Barber Asphalt Paving Company can be held for maintaining the repairs on the streets, contracts for which paving were turned over to it by the Fruin-Bambrick Company, as the latter company is still in existence, and the company which took up its bond may be held for the maintenance of the pavement. L. Laflin Kellogg, Counsel for the Barber Company, states that the Company is not responsible under the bond of the Fruin-Bambrick Company, and that it will maintain only streets for which the Barber Company has received contracts.

PARIS, FRANCE.—In order to demonstrate that even Paris streets may not always deserve the praise bestowed upon their supposed good condition, three journalists recently carried a half dozen ducks to the Place de l'Opera and dropped them into pools of water that had been formed by the rain, in the busiest portion of that thoroughfare; the ducks swam about, a crowd gathered, and eventually the police interfered and both journalists and ducks were taken to the station, where the perpetrators explained that they had been detailed by their paper to play the prank in order to call attention to the dreadful condition of the streets.

TROY, ILL.—In spite of threats that he would be mobbed, Mayor F. W. Braner, who was, last spring, elected on the Improvement Ticket, recently headed a gang of laborers, and personally superintended the removal of brick walks in the business portion of the village, after the property owners had refused to heed a circular from the City Council requesting them to put down granitoid walks within thirty days. Mayor Braner says that for a number of years the city of Troy has been building sidewalks out of cinders and has been paying \$2.50 for a wagon load of cinders worth about 15 cents; the walks were paid for by general taxation, and as there were not enough to go around the citizens on the outskirts had to pay for another man's walk when he had none for himself.

Sewerage and Sanitation

DUBLIN, IRELAND.—Nathan Straus of New York proposes to enlarge the field of the milk stations which have proven such a boon to the poor of New York, and through Richard Croker has offered the city of Dublin a complete pasteurizing plant to assist the municipality in its efforts to combat tuberculosis in the slums. There were 12,000 deaths in Ireland from consumption last year.

INDIANAPOLIS, IND.—Dr. Eugene Buehler, Secretary of the City Board of Health, and City Sanitarian, proposes to establish a system of scoring dairies, which is designed to secure perfect conditions and insure pure supplies of milk. A schedule of markings is prepared, about the same in each case, by which a dairy is marked on the basis of 100 per cent. for perfect conditions, so much being awarded for cleanliness of buildings, of cows, health of cows, care of milk and other things that are vital factors in making either wholesome or bad conditions at a dairy. Instead of having but one inspector Dr. Buehler intends to send two men, each setting down his markings in a separate book, without the knowledge of the other. The final scoring will then be determined by averaging the scores fixed by the two inspectors; the City Board of Health intends to make public these scorings, and contemplates making a rule that a dairy to pass inspection and sell milk in the city shall have a score of a certain number.

NEW YORK, N. Y.—The Report of the Division of Inspection of the Department of Health, for the quarter ending June 30, 1907, shows:

Number of specimens of milk examined.....	28,639
Number of specimens of milk collected for analysis....	3,875
Number of quarts of adulterated milk destroyed.....	3,506
Number of pounds of fruit destroyed.....	1,657,054
Number of pounds of vegetables destroyed.....	997,751
Number of pounds of groceries and canned goods destroyed.....	3,695
Number of pounds of confectionery destroyed.....	122
Number of pounds of meat destroyed.....	529,589
Number of pounds of fish destroyed.....	54,380
Number of pounds of poultry and game destroyed....	111,753
Number of pounds of milk destroyed.....	7,012

Total pounds of fruit, food, meat, milk,
etc., condemned and destroyed..... 3,361,356

PHILADELPHIA, PA.—At a combined meeting of the Jewish Bakers' Union and the Forward Association, recently held, to protest against unsanitary conditions now existing in many bake shops, a committee of five was appointed to wait upon the Mayor and ask his aid, and have the Board of Health look into the conditions described. L. Elstein, who presided, said that the shops are, for the most part, located in unventilated cellars, the walls are uncovered, the floors earthen, and the places filled with insects. A number of propositions were drawn up to be presented to the owners of shops, in which it was demanded that all shops have a large window and a glass door to give proper light and air; that the floors be made of wood or concrete; that the walls be covered with boards or tin; that the employes, when working, wear white clothing; that the flour be stored in different compartments from those in which the ovens are; that all shops be regularly inspected, and that five inspectors be appointed for that purpose.

Water Works

CHARLESTON, S. C.—The city is apparently not yet free from legal entanglements over the water plant recently completed by the Charleston Light and Water Company, which trouble has been before officials and citizens for the past eleven or twelve years. The latest phase of the question, which is to be passed on by the Federal courts, is as to the issue of \$100,000 bonds by the Company in connection with the expense of construction. The City Council has authorized the issue on the majority report of the Water Works Committee, which included an estimate by Engineer J. L. Ludlow, who was employed by the city, but objection is entered and litigation will probably be instituted by a Citizens Committee headed by J. V. Wallace. It is alleged that the Company has not expended \$1,125,000, including \$350,000 for the old water works, and is therefore not entitled to issue the additional bonds. Mayor R. G. Rhett, speaking in favor of the amended franchise, reviewed the history of the water works movement, and said that while the city should preserve its rights of exercising an option to purchase the plant by seeing that the issue of bonds be kept within legitimate and proper bounds, and should secure what it is rightfully entitled to, it should not seek to obtain by force, what it is not entitled to in justice, equity, and conscience.

CHICAGO, ILL.—Harbor Engineer R. O'S. Burke has discovered numerous pipes projecting into the lake and the Chicago and Calumet rivers, through which large consumers of water are supplied without paying tax to the city. A list has been made of more than a hundred individuals and business concerns who own these private intakes, by whom Alderman Herlihy says no city permit has been obtained for pipes for free water, and that the amount so drawn from the lake and rivers annually amounts to millions of gallons.

FORT WORTH, TEX.—As a result of the recent bursting of a sixteen-inch water pipe leading direct from the pumping station and supplying a large number of smaller pipes of the city, 2,000,000 gallons of water, or about one-half of a day's pumping, was wasted, and over a million gallons of river water had to be pumped into the mains to supply the deficit. The crack in the main was nearly twelve feet in length, and after seven of the largest valves in the system had been closed, and the width of the break ascertained, it was found that repair was out of the question, and that a new joint would have to be installed. The cause of the accident is not definitely known, but is thought to be the result of some defect in the cast-iron pipe.

Street Lighting and Electric Power

GALESBURG, ILL.—The most elaborate decorations for "Home Coming" week are those on the City Hall. The entire front of the building, including the tower, is traced in outline by strings of incandescent lamps, while a red, white and blue pennant of electric lights streams from the flag pole. In all more than two thousand lamps have been used. City Electrician Fred Schull and his assistants, designed and arranged the decorations.

LEAVENWORTH, KAN.—A Citizens' Committee has been organized for the purpose of insuring the maintenance of the electric lights, and the cleanliness of the streets and alleys. As much encouragement has been received from the residents, and it is said the Mayor and Council have promised their aid, the members feel assured that the \$770 a month necessary to keep the streets lighted at night will be forthcoming. Mayor Everhardy has turned over to the Committee the street sweepers and other appurtenances necessary to street cleaning. The

subscription list which is to be published states that each person gives a certain amount set opposite his name for the purpose of keeping the streets lighted, or the pavements clean, and it is requested that all agree to give this certain amount each month, no sum being too small or too large to donate.

RUTHERFORD, N. J.—It has been discovered that the pipes of the Public Service Corporation's gas service in Park avenue are being corroded by electrolytic action, with the result that leaks have occurred, and the gas has escaped in sufficient volume to overcome a workman in a manhole. When the gas company attempted to open the street to find leaks and make repairs Mr. Charles L. Crear, Superintendent of Public Works, stopped the work on the ground that the Company should put up a cash bond to insure putting the street back in proper condition.

ST. LOUIS, MO.—The annual report of the City Lighting Department showed the total cost of lighting the city by contract to have been \$538,780.81 last year. Of this amount, lighting the downtown districts cost \$99,390.29, park lighting costing \$22,387.35, and alleys, all lighted by incandescent lamps, \$14,691.18; mantel, gas lamps in the north district cost \$393,483, and in the south district \$45,906.52. The contract price for arc lights is \$98 a year; the incandescent lamps for alleys cost \$18 a year, and the gas mantel lamps cost \$28 a year each. It is planned to provide in the near future about 500 additional arc, 4,500 additional mantel, and a considerable number more incandescent lamps.

TORONTO, CANADA.—The first year of civic ownership of the gas lighting of the streets has ended with a saving to the city of over \$7,000, or nearly 25 per cent. Not only has the city been saved \$20 a night, but all the employees have been enjoying increases in salary, ranging from 10 to 12 per cent. Since January 1 last, there have been fewer complaints under the civic control than before, and it is said by Superintendent McGowan that the service has never been as good. During the year the 1,012 lamps consumed 10,425,000 cubic feet of gas. The only disadvantage under civic control is that no new lamps can be put in where gas mains have to be built, but the city must wait on the gas company's pleasure.

Fire and Police

BAYONNE, N. J.—Mayor Pierre P. Garvan has secured another reduction for fire insurance in Bayonne as a result of pressing the city's claims thereto after the making of a number of improvements had been completed by the city. It is the second reduction to be secured within a year and is from 45 per cent. to 40 per cent. It applies to the district comprising Bayonne and Constable Hook, and makes the total reduction in the time mentioned just 10 per cent.

BRIDGEPORT, CONN.—George E. Hill, President of the Board of Police Commissioners, in an address before the Board of Trade stated that Bridgeport is the most insufficiently policed city east of the Mississippi river, and north of Mason and Dixon's line. In proof of his assertion Mr. Hill quoted the statistics of police protection in other cities of the size and demonstrated that with the present number of sixty patrolmen and 100,000 population, the proportion is about one policeman to 1,666 inhabitants, and that compared with every city of its size in the Eastern States, Bridgeport falls from 20 to 60 per cent. below in police protection.

FORT WORTH, TEX.—Chief of Police Maddox proposes to introduce the regulation drill into his department, which will be given several times weekly, or perhaps every morning. The exercises will be the most up-to-date now used and conducted on lines similar to those in other cities. The Chief says it will have the effect of not

only improving the discipline in the department, but will be especially useful in time of riots, disastrous fires and other such occasions. Every member of the force will be required to participate in these drills.

KANSAS CITY, KAN.—The Engineers of the National Board of Fire Underwriters have issued their report on the fire protection of this city, where the principal industry is the packing plants. The average fire loss has been high, aggregating \$1,224,000 in the last five years. The water supply is found to be inadequate, the Fire Department weak and inefficient, and with no fire alarm telegraph service, although the conflagration hazard is believed to be moderate as a whole.

LUDLOW, MASS.—Efforts are being made by those who secured the adoption of the system by the town to have the patrolmen use the time clocks which have been installed and are ready to be used. The advocates of the time clocks want the Selectmen immediately to instruct the patrolmen to carry the clock and visit each station at least once in every two hours, between 6 in the evening and 4 in the morning, the last round to be finished not earlier than 3 o'clock in the morning. It is pointed out that the service would be of help in locating an officer at night, something very difficult to do under the present mode. The people are urgent in their demand for better police protection.

NEW YORK, N. Y.—Police Commissioner Bingham will shortly put in service six Belgian shepherd dogs as an aid to the Police Department in detecting criminals. A successful experiment was conducted recently in Poughkeepsie with the one bloodhound already owned by the department, in which the dog succeeded in following a man after the lapse of four hours. Since then the animal has been held in readiness for the first evil-doer who outstrips the police and leaves any trace. The new dogs are of the "Berger Belge" breed, are of gray color, and, according to reports made to the Commissioner, are hearty, courageous and intelligent. They will be housed in one of the parks.

OAKLAND, CAL.—An ordinance providing for the appointment of an ex-officio Fire Marshal, who shall be Chief of the Fire Department, has been introduced in the City Council. The deputies will act under the direction of the Board of Underwriters and have the same authority as Building Inspectors, being enabled to enter premises to determine the adequacy of fire protection and secure data for the fixing of insurance rates.

VIENNA, AUSTRIA.—For a city of more than 2,000,000 inhabitants, Vienna enjoys remarkable immunity from fire. The total losses in 1906 were less than \$130,000, while the Fire Department cost the city about \$30,000. In all there were 1,169 fires, an average of a little over three a day. Of these 37 were classified as large, 156 medium, and 976 small. Thirty-four were in public buildings, 426 in private houses, and 109 in the streets. The small total of the aggregate loss is due not only to the activity of the Fire Department, but to the very solid construction of all buildings in the city, public and private alike. While practically the whole population live in flats, it is seldom that a fire will extend beyond the apartment in which it originates.

WILMINGTON, N. C.—Chief of Police Williams has notified the members of the police force that in future the rule with reference to patrolmen on the beats engaging citizens in prolonged conversations while they are on duty will be strictly enforced. The rules prescribe that officers shall continuously walk their beats and shall not engage in conversation with citizens except on business pertaining to matters of the Department or giving information. Violation of the rules subjects the officer to suspension by the Chief with the indorsement of the Mayor.

Government and Finance

BEAVER FALLS, PA.—A movement is on foot among a number of leading citizens to apply for a city charter. The town now numbers 15,000 inhabitants, and it is claimed its affairs can be conducted in a more economical and satisfactory manner under a city charter than as a borough.

DETROIT, MICH.—Deputy Comptroller Nagel, and City Accountant Gridley, who attended the Convention of Comptrollers and Accounting Officers at Richmond, Va., have expressed their opinion that Detroit, generally speaking, is far in advance of most other cities in its accounting methods, in the collection of taxes, the preparation of its appropriation budget, and the method of keeping expenditures not only within the amounts appropriated for each fund, but for each item contained in the fund. In the matter of special assessments, they feel that the system in operation in Detroit cannot be improved upon by any suggestions offered by the other cities.

LOS ANGELES, CAL.—In accordance with the request of City Auditor W. C. Mushet, the heads of the city departments are making inventories of city property. It has been deemed by City Council absolutely necessary to establish a new and intelligent system of accounts in the various departments, and each has been instructed to prepare a full and complete inventory of all city property in its possession or under its control, so designating it in detail as to make future identification possible, such list to be sworn to by the head of the department, and that two prices be given,—first, the cost price, and, second, the present value. Rigid watch will be kept on all city belongings hereafter and the book system will also be closely studied so that the same rules of business book-keeping may apply as in private business.

NEW YORK, N. Y.—Mayor George B. McClellan, who is a member of the Charter Revision Commission, has sent a letter to William M. Ivins, Chairman of the Commission, in which he makes some radical suggestions for changes in the city government with a view to obtaining a more effective and comprehensive system. The Mayor recommends:

First—That the revised charter should be as concise as possible, and that the mass of minor provisions contained in the present charter should be eliminated, thus leaving it to the local authorities themselves to work out the details of municipal government by ordinances or otherwise. In short, that the new charter should resemble as far as possible, a city constitution rather than code of city statutes.

Second—That the office of borough president should be abolished, and that the responsibility for all the executive branches of the city government should be centered directly upon the Mayor.

Third—That the number of city departments should be reduced by consolidating those which now possess more or less similar functions, thus doing away with much of the conflicting jurisdiction, which exists at present.

Fourth—That the Board of Estimate and Apportionment should be composed, not of city officials, but of members elected directly for this purpose. That the Board of Aldermen should be greatly reduced in size, and that many of the minor city boards should be abolished.

SALEM, MASS.—A petition has been presented to the city government by W. W. Coolidge, a former member of Common Council, in which he asks that a committee be appointed to consider the government of the city by a commission with a view to drafting and presenting a bill to the next Legislature, and that the committee upon appointment hold public meetings to determine the sentiment of the people on this subject. The proposed plan follows those of Galveston, Tex., and Des Moines, Ia., and the Entertainment Committee of the Salem Board of Trade has voted to open the winter season with a talk on "Government by Commission." President Eliot of Harvard University has accepted an invitation to be present and speak at the meeting to be held October 25.

Parks and City Beauty

BOSTON, MASS.—The State Gypsy Moth Commission has sent communications to the Mayors of municipalities where the gypsy and browntail moths are known to exist, urging that all property owners be formally notified that they must keep their premises clear of the pests, under penalty of the law. Reports from the district of Worcester and vicinity show that a large force of men is being employed scouting roadsides, and in Ashland it is reported that twelve new points of infestation with a total of two hundred and eleven nests have been discovered.

GADSDEN, ALA.—Permanent plans have been perfected by the ladies of Gadsden who responded to a call sent out for the purpose of organizing a "City Beautiful" Club. Prof. W. E. Striplin presided as temporary chairman and urged those present to cooperate with the men for the work of beautifying the city. In the permanent organization Mrs. J. M. Elliott was elected President; Mrs. C. S. Ward, Vice-President, and Mrs. W. E. Whips, Secretary-Treasurer.

GRAND RAPIDS, MICH.—The Special Committee appointed by Council to report on the question of combining both public buildings and other improvements, in a plan for beautifying the city, have reported that it believes a detailed and comprehensive plan is necessary to accomplish the purpose evidently in the minds of the promoters. Looking towards a more thorough investigation, which would, among other things, give the Council a better idea of the probable cost of improving and beautifying the city, the Committee recommended that the Mayor appoint a committee of nine who shall in the near future report back to the Council general and comprehensive plans for the work.

JACKSON, MISS.—The ladies of Jackson have organized what they call a Municipal Improvement Association, the object being to arouse public interest in the appearance of the public parks, streets, etc. Mrs. Charles B. Galloway has been elected President of the Association, and rules and regulations will be prepared. Jackson has three or four so-called parks—vacant spots that were set aside years ago, and nothing has ever been done with any of them save to plant a lot of forest trees. The idea now is to have the city take hold of these several parks and make them worthy the name and parks in reality, where it will be a pleasure to go.

LOS ANGELES, CAL.—At a meeting of members of the Sixth State Agricultural Board, the City Park Commissioners and other civic bodies, recently held, it was decided to convert Agricultural Park into a beautiful scenic park in the near future. For a number of years, the park has been used for State fairs, but residents of the southwest section petitioned the Governor to instruct the State Board of Agricultural Parks to deed the land to the city unreservedly, in order that it might be turned into a picturesque park. A landscape gardener has been engaged by the Agricultural Park Association, and plans for extensive improvements in landscape gardening and scenic effect are being prepared; a large pleasure lake will be a feature, and it is the aim of the City Park Commission to make the park representative throughout and rival the others of the city.

NEW YORK, N. Y.—Park Commissioner Samuel Parsons, in a report to the Board of Estimate on the condition of Central Park, has made urgent recommendation that the Park be renovated as soon as possible. He estimates the total cost of the necessary improvements to be \$2,676,750. The Commissioner suggests as the most urgent work the purchase of 75,000 cubic feet of mould, 1,000,000 square feet of sod, and \$75,000 worth of trees and shrubbery; the completion of the water supply in the

middle and western sections of the Park, the removal of from nine to ten inches of existing gravel superstructure on the roads, and the substitution of a solid foundation of stone in graded sizes, finished with screenings, and the laying of a new pavement of asphalt or cement on the unpaved walks in the north part of the Park. Second in importance Mr. Parsons recommends the cleaning of the lakes and ponds, laying of concrete flooring, the construction of new walls, and the installation of a water flushing system; renovation of the bridle-paths, repair of the entire sidewalk on Central Park West, laying of a new trunk sewer from the arsenal to connect with the city sewer, and a proper remodeling of the entire drainage system of the Park.

OAKLAND, CAL.—Mosswood, a naturally wooded tract of twelve acres, has been acquired for the purposes of a public park. The tract was bid in at the court sale by a syndicate of Oakland bankers who were represented by Wilson S. Gould, City Attorney McElroy, doing the bidding. They have agreed to turn the property over to the city for the amount of their bid, \$65,100. The Union Savings Bank, the Oakland Bank of Savings, and the Central Bank are in the syndicate. The city will endeavor to secure final possession of it under the provisions of the park bond issue voted early in the year.

SACRAMENTO, CAL.—The Legislature recently made an appropriation for the improvement of the park around Sutter's Fort, and plans have been drawn in the State Engineer's office, which include the terracing of the grounds at the southwest corner of the park, the construction of an artificial lake with a rock foundation in the center, and the laying of walks. The Commission intends to ask the citizens to advance the amount of money required above the appropriation with which to finish the work in the near future, as the Governor is willing to sign an appropriation bill covering the additional expense when the next Legislature is in session so that the money loaned now will later be refunded.

WASHINGTON, D. C.—It is reported that Washington's shade trees have during the past season suffered severely from the attacks of the white-marked tussock moth. This pest is a native species and in previous years has done considerable damage to the orchard and shade trees throughout the eastern States. In certain localities of Washington the trees have been entirely defoliated by them. It is said it would take two or three years' consecutive defoliation to kill some of the finest shade trees, but those planted along the city streets have a hard struggle for existence as it is, as they are surrounded on all sides by asphalt, which smothers the roots and keeps out all water, which would otherwise carry food to the roots.

DUBLIN, IRELAND.—Use has been made of the derelict gas lamp standards in Dublin. Flower-holders have been erected by the New Society in Kildare street on the old posts. Baskets made of cast-iron and burnished copper are supported upon the pedestals of disused gas lamps. Growing flowers with green trailing plants fill the baskets and make a splendid display.

Rapid Transit

CLEVELAND, O.—Judge Lawrence of the Common Pleas Court has rendered a decision holding as illegal all franchises granted by the Council for so-called three-cent fare lines on the East Side, except a small section constructed on East Fourteenth Street, which covers about two blocks. The Court held that the franchises for three-cent lines on the West Side were invalid because they were granted prior to the date upon which Mayor Tom Johnson was alleged to have become financially interested in the roads.

MONONGAHELA, PA.—A franchise has been granted to the Monongahela and Carroll Street Railway Company, a new corporation which proposes to build an electric line up Pigeon Creek, and on to Bentleyville, Ellsworth, and Washington. For the privileges granted the company agrees to pave streets on which the line is laid; not to charge over a five-cent fare within the city limits, and to run cars at intervals of not more than sixty minutes, from 6 a. m. to 11 p. m. The ordinance must be accepted within thirty days after its charter has been granted, and the company must file a trust company bond in the sum of \$5,000, conditioned that it will complete and place in operation the said railway within a period of two years from the date of securing its charter. The company must also agree to pay fifty cents a year tax on all poles and stubs.

PHILADELPHIA, PA.—A charter has been granted to the Philadelphia Subway Terminal Railway Company to construct a subway for rapid transit traffic on North Broad street, from the City Hall to the northern part of the city, and which will connect with the Pennsylvania's Germantown and Chestnut Hill branch. The Company is chartered for 999 years, and has a nominal capital of \$40,000, consisting of 800 shares of \$50 par value each. It is estimated that the subway will cost from \$10,000,000 to \$15,000,000, in addition to the cost of the franchise and terminal property. It is proposed to build a great underground station connecting with Broad street station, and it is thought that by bringing trains to this station through the subway, a saving of time can be effected, as the distance would be lessened about three miles.

SPRINGFIELD, MASS.—Fifty citizens of Springfield are trying to get the Springfield Street Railway to build an extension of its St. James avenue line about 8,950 feet to the Chicopee boundary line. The Aldermen have granted the location but the Company does not want to build, claiming that the district is so sparsely settled that no proper return can be reasonably expected for many years. The Railroad Commissioners take the ground that it is not always necessary that a company enjoying a monopoly in a city like Springfield shall see a profit in a proposed extension before building it, but that the circumstances must decide each case. They will take a view of the territory and give a finding as to whether, in their opinion, the Company ought to build.

Miscellaneous

ALTOONA, PA.—The scales and measures used in Altoona are to be tested by Sealer of Weights and Measures Goodfellow. Brass tags have been prepared, and will be attached to the scales found to be correct; they are stamped "C. A.—'07," which means the scales have been tested during 1907 by the City of Altoona, and found to be weighing correctly. If the scales are not correct they will be condemned. The measures will be stamped with a pair of dies, and the same letters and figures to be found on the tags will be printed on the side of the measure. Inspection will be made once a year.

GRAND RAPIDS, MICH.—The Mayor has appointed a committee of three to consider the question of flood protection on the East Side by doing away with the East Side power canal, and the construction of walls along the east dock line from Fulton street to the power dam, the deepening of the river bed adjacent thereto, also to confer with property owners interested or affected thereby, and to report the results of the investigation with recommendations to the Common Council.

MOLINE, ILL.—An ordinance relating to weights and measures has been adopted by City Council, which prohibits the practice of deceit or fraud in regard to measure-

ments or weight of commodities. It provides that any person, firm or corporation who shall practice deceit or fraud of any kind whatsoever in the sale of wood, coal, grain, berries, fruit, vegetables, liquids or fluids of any kinds, or any other commodity or articles of merchandise of any kind by selling or offering for sale any such commodity or article of merchandise in quantities of less weight or measure than the weight or measure represented by the vendor or his agent or employe, or who shall sell or offer for sale any article of dry measurement in other than a legal dry measurement or any article of liquid measurement in other than a legal liquid measurement, or in any measure which is not according to the legal standard of weights and measures, shall be fined not less than five dollars, nor more than one hundred dollars for each and every offense.

NEW YORK, N. Y.—Mayor George B. McClellan has expressed his disapproval of the effort being made by the Brooklyn Ferry Company to force the city to buy its seven lines of ferries between Brooklyn and Manhattan, which company threatens to abandon its lines if the city fails to purchase them. The company has placed a price of \$13,000,000 upon its property, although it is said only one or two of the lines are making a profit, but it argues the city would not lose in running them because it would not have to pay for dock privileges and other renting. Dock Commissioner Bensei estimates the value of the company's property in Manhattan and Brooklyn, including bulkheads, lands, twelve ferryhouses, twenty-one slips and twenty-two ferryboats, at \$4,150,375, basing his figures on those fixed by the courts for the Union Ferry Company. Commissioner Bensei also said that if the city were compelled to purchase the boats now operated by the ferry company on the East river, it would practically have to make an expenditure of \$8,000,000. He said that at least twenty new boats would have to be built, terminals repaired and other improvements made.

WASHINGTON, D. C.—A report has been prepared by the committee appointed by Congress, composed of Engineer Commissioner Jay J. Morrow, James Knox Taylor, Supervising Architect of the Treasury; Dr. William E. Chancellor, Superintendent of Schools, and Snowden Ashford, Building Inspector, for the purpose of visiting other cities and investigating and recommending changes in the method of constructing school buildings here. As the result of the examination of schools in St. Louis, Chicago, Muskegon, Detroit, Cleveland, and other cities, an appropriation of \$20,000 will be asked with which to erect a number of portable school buildings, as the members of the Commission believe that they are not only economical but will solve the problem concerning the location of schools in various neighborhoods and overcome the matter of overcrowding. If necessary two portable buildings can be erected by the side of a regular school, thereby furnishing room for 100 children who could not otherwise be cared for. Plans of these portable buildings are being prepared by architects of the District Building Department, to be used as demonstrations to Congressional committees.

WILKES-BARRE, PA.—The city authorities intend to enforce the ordinance which empowers them to prevent merchants and others from littering the streets each morning by sweeping dirt from their stores into the gutters of the paved streets. The cleaning of the streets in the central part of the city is done shortly after midnight. In the morning the merchants sweep dirt into the gutters from their stores, which remains in the street until the next night, when the cleaners make their rounds. It is purposed to arrest a few of the offending store owners in the hope of setting an example to others.

LEGAL NEWS

A Summary and Notes of Recent Decisions—Rulings of Municipal Interest

REMOVAL OF STREET RAILWAY TRACK

North Jersey Street Railway Co. vs. Board of Street and Water Commissioners, City of Newark.—The Board of Street and Water Commissioners adopted a resolution ordering the removal of a curved track connecting the Broad and Market street railroad lines, which it was claimed the railroad had no right to maintain and which was stated to be a nuisance. The suit was on an application for an injunction by the North Jersey Street Railway Company to restrain the city from removing the curve. It appeared that for thirty years the predecessors in title had maintained curved rail connections at that intersection. The court said that the decision of the Board of Street and Water Commissioners, though made after notice and hearing, was not conclusive as to whether the curved rails constituted a nuisance and were maintained without right. The railway company without attacking the validity of the resolution might apply for an injunction restraining the removal of the connections pending the trial of the right to remove. Moreover, the complainant railway company, as the successor of a former company, showed such a right to maintain the curved rail connections as entitled it, pending final determination of its right to enjoin their removal. Regarding the provision of the street railway charter authorizing the company thereby incorporated to construct a railway through the streets of a city on condition that the company should not lay its rails in or along any street without first obtaining the permission of the Common Councils the court said is a privilege given to the city, as having authority over the location and construction of the tracks in public streets, which it may waive, or to which an implied assent may be given by acquiescence, and the failure to obtain such consent does not alone render the construction of the track altogether illegal. In conclusion the court said: "Whether the operation of complainant's cars over these curved rails has become a nuisance, and whether this court has power to control the operation at this point, for the purpose of abating the nuisance to public travel, which is alleged to have grown up, are entirely different questions, on which no opinion is intended to be expressed. The only question I can determine now is the right to maintain the curved rail connection on the street at all for any purpose, however limited. As to this, I think the company has shown a case of right, if the case is to be decided on the facts now appearing, and I think there is no doubt that it has shown such a case as entitles it to an injunction restraining the removal, until the final determination of the right."—Court of Appeals of New Jersey.

PUBLIC STREETS IN ANNEXED TERRITORY

Smith et al. vs. Mayor and Council of Macon.—That provision of the act of 1903, amending the charter of the city of Macon, which authorizes the city authorities to determine which of the existing roads and alleys in the territory annexed to the city by the act shall be declared to be public streets of the city, does not abridge the privileges and immunities of the citizens of the annexed territory, nor deprive them of property without due process of law, nor deny to them the equal protection of the law, within the meaning of the fourteenth amendment to the Constitution of the United States. The act of 1903, amending the charter of the city of Macon, is not, for the reasons urged in the present case, subject to the objection that it contains in the body of the same, matter variant from the title thereof. The act above referred to is not unconstitutional for any reason urged against it in the present case.—Supreme Court of Georgia.

INTERURBAN ROADS—SPECIAL SERVICE

Falls River & Mach. Co. vs. Traction & Light Co.—Where a common carrier of passengers is in a position to have advance information that the number of passengers will exceed the seating capacity of the vehicle furnished, its failure so to furnish the necessary accommodations will not be excusable, nor can the plea of expense be accepted or justified. A common carrier of passengers is presumed to understand the obligation it assumes, to furnish reasonable adequate service and facilities for the transportation of passengers, and should prepare itself to meet such obligation. The carrier's duty to the public is paramount, and superior even to its private interests.—Railroad Commission of Ohio.

PAVING CONTRACT—LIQUIDATED DAMAGES

City of Jellico vs. Gambill & Company et al.—The defendant made a certain contract to grade and pave the city of Jellico. This was entered into between the defendant company and the Commissioners of the old city of Jellico. The specifications embraced the character of the work to be done and the price to be paid and provided that the work was to be commenced within five days thereafter. It also provided that the defendant company was to pay to the city of Jellico the sum of ten dollars (\$10.00) for every day that it required to do the work after a specified day. It also provided that the defendant company was not to sub-let the work. The defendant did not go to work as specified, but commenced some few days thereafter, but before completing they abandoned the work and turned it over to another company to complete. This latter company in turn did also abandon the job. The city of Jellico notified the defendant company that unless they immediately came forward and finished the job that the city would take the work in charge and finish same themselves, and charge the difference in the contract price and the additional cost of the work to the bondmen. The defendant company did not come forward, and the city took the work in charge and finished same and filed a bill against Gambill & Company, and the sureties for the excess and also for ten dollars per day for the time required to complete the contract beyond the specified day. The defendant set up the claim that they had no contract with the present city of Jellico, and they would not sue on the contract of their predecessors. Jellico had in the meanwhile become reincorporated and the present suit was brought by the present municipal officers. This court held that where the same territory is embraced in the acts of reincorporation the rights and liabilities of the old city pass to the new. The act reincorporating Jellico shows the same boundary is set out in both acts. The attorneys for the defendants also contended that the \$10.00 per day imposed by the court should not be upheld by the court as same was in the nature of a penalty. The court held that where such damages are indefinite and uncertain a proviso of that nature in an instrument or contract will be regarded as liquidated damages.—Supreme Court of Tennessee.

ATTEMPT TO TRANSFER RIGHTS

Contra Costa Water Co. vs. Van Rensselaer.—The right of a corporation to maintain a proceeding to condemn land for a public use is not a right of property, in the sense that it may be made the subject of private proprietorship, so as to be capable of conveyance by deed from one corporation to another. Where a corporation entitled to exercise the right of eminent domain, after instituting proceedings for that purpose, transferred all its franchises, rights, and property to another corporation organized for the same purpose and entitled to exercise the same rights, the transferee thereby became invested by operation of law with the right to continue such proceeding as the representative of the state, and was therefore entitled to be substituted as the petitioner in the pending proceeding under Code of Civil Proceedings, providing that, in case of a transfer of interest, the court may allow the action or proceeding to be continued by or against the successor, or may allow the transferee to be substituted as a party to the suit.—U. S. Circuit Court, N. D. California.

PEDDLERS' LICENSES

City of Muskegon vs. Hanes.—Defendant was employed by a foreign corporation to take charge of a crew of canvassers to sell perfumery. The goods were shipped to defendant in complainant city, done up in packages containing ten bottles. These were left by defendant's canvassers with householders or children, to be retained or disposed of to others; premiums being given for sales. A collector employed by the corporation, with whom defendant had no connection, followed the canvassers and collected the proceeds of the perfumery sold, etc., the proceeds being forwarded to the corporation, which paid the expenses of defendant and her canvassing crew. Held, that defendant was a "hawker or peddler," within a city ordinance imposing a license tax on such persons selling drugs, toilet articles, perfumes, etc., and defining the term "hawker or peddler" as a person going about from house to house and offering to sell articles of trade or commerce, to be delivered then or in the future. Where a foreign corporation shipped perfumery to its agent within the State, who was in charge of a canvassing crew, and they carried the perfumery from house to house, to be purchased or sold by the householder or his children, and later accounted for to another agent of the corporation, such transaction did not constitute interstate commerce, beyond the authority of plaintiff city to regulate.—Supreme Court of Michigan.

RESPONSIBILITY FOR FAILURE OF SEWER WORK

Thomas J. Shea vs. Sewerage and Water Board of the City of New Orleans.—This was a suit for a balance claimed to be due on an open account based on sewerage contracts and for damages caused by defendants in executing the contracts. The defense was a denial of liability based on defective work by plaintiff, the cost of restoration of which by defendant it was alleged offset his claim. The court in stating the issue said that if the plaintiff was untrammelled in the exercise of his discretion in the means to prosecute the work and the manner and mode of construction and failure resulted, it is his duty to repair the failure. If, however, the plaintiff was only an administrative agency to mechanically execute the orders of the defendant, and if he did execute them, and failure resulted, the plaintiff is not responsible, unless the failure were caused by his negligence. An examination of the contract shows that no discretion is given to the defendant in executing his work. He was to do the work in strict conformity with the plans and specifications under the direction of the engineer. The defendant's inspectors testified that they inspected the laying of every pipe and that the work was properly done. However, the pipes, which were 24 inches in diameter and laid in trenches about 14 feet deep, did settle in a number of places. It seems that an engineer had informed the inspector that deposits of sand and water might be expected along the line of the sewer and that foundations would probably be needed. Having this in view the inspector reported on the soil daily and placed his report in the office of the General Superintendent. These reports show the occurrence of "boiling sand" in places along the line of the work. Sometimes 2-inch planks were used for foundations. The soil was so soft that men would often sink knee deep in it and would have to stand on planks for safety. It appeared that the contractor was an experienced man and employed skilled men. He wrote to the General Superintendent stating that, in his belief, the sewers should be laid on a foundation. No foundation was ordered to be put in, although the specifications provided for changes in plans. At the trial the defendant placed five civil engineers on the stand. Their evidence as to character of the soil and its ability to carry the sewer favored the defendant. The plaintiff put on the stand, as an expert, Alexander Potter, C.E. He did not agree with the opinions expressed by most of the experts. He stated that it was impossible to determine from the samples of soil whether or not the original soil was fit to lay pipes on. The samples did not show the amount of water in the soil at the time the pipes were laid. In the opinion of this witness the contractor's work was properly done and a sewer could not stand on such soil. The plaintiff repaired the work and put in extra bills for it. Finally the Superintendent gave specific orders about keeping the trench pumped out and other matters and also ordered more repairs to work already done. Before these orders were complied with the contractor was ordered to abandon the work. The court found that the plaintiff was entitled to receive \$125,888 damages. —Civil Dis. Court, New Orleans, La.

IMPROVEMENT BONDS—DELINQUENCY

Olmsted vs. City of Superior et al.—Under Wisconsin Statutes 1898, which provides that delinquent city taxes on real estate turned over to the county for collection, whether general or special taxes, become the property of the county, which is debtor to the city for the total amount thereof, a county to which a city has turned over as delinquent taxes due on a special assessment pledged for the payment of improvement bonds does not become a statutory trustee for the benefit of a holder of such bonds, and he has no standing to maintain a suit in equity against it for an accounting. A bill by a holder of improvement bonds issued by a city, which alleges that by the statute of the State the city is made a trustee to levy and collect special assessments on the property benefited by the improvement and to apply the proceeds solely in payment of the principal and interest of such bonds, and that it has diverted such proceeds to other purposes in violation of the statute and its duty as trustee and threatens to do so with future proceeds, states a cause of action for relief in equity against the city and which a court of law could not afford. Where the Supreme Court of a State has expressly held that under a State statute a certain issue of bonds by a city created a general liability for their payment on the part of the city and also made it a statutory trustee for the collection and application on the bonds of a special assessment, a bill in equity by a holder of such bonds to enforce the duty of the city as trustee is not multifarious, because it also seeks to enforce its general liability by obtaining a judgment against it, which may properly be treated as incidental or supplementary to the equitable remedy sought and not inconsistent.—U. S. Circuit Court, W. D. Wisconsin.

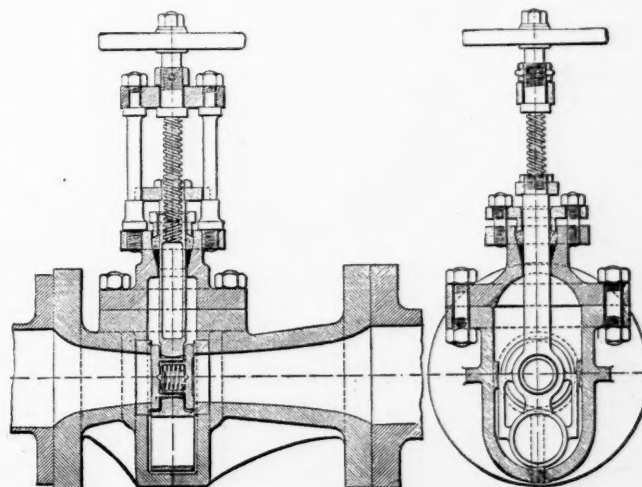
MUNICIPAL APPLIANCES

A Comparison Photometer

A SMALL portable device for measuring the light reflected from an illuminated surface for the purpose of comparing it with a known standard has recently been invented. The principle involved is this: The object to be measured is looked at directly through a semi-circular opening in the photometer; through another similar opening the light from a small electric lamp attached to the photometer is brought by means of a prism in such a direction that the eye sees a disc of light, the right half of which comes from the object to be tested and the left from the photometer's lamp. If the intensity of the two halves is equal, it shows that the intensity of the illumination due to the object and the standard are equal. If they are unlike the intensity is reduced on one side by means of a movable photographic film of gradually increasing density, until the two halves of the field are equal. The scale on the film gives the illumination due to the object as compared with the standard. In using the device for comparing the intensity of street lights with the standard a piece of white Bristol board is held normal to the direction of the light at a uniform distance from the lamps to be tested, and measuring with the photometer the amount of light reflected from the board. The device itself is in a metal box three inches square by one inch deep with two circular openings at one end, over one of which is a closed tube containing at its further end a small tipless 5-volt lamp. At the end of the tube next the box is a piece of fine ground glass. Two other pieces of glass carry the photographic film with varying density between them. A glass prism deflects the light from the lamp, so that both it and the light from the object being examined may be seen side by side.

New Design of Gate Valve

A NEW design of valve, called the Ferranti, has recently been placed on the market in England. The object sought is to make a more economical valve than is ordinarily used as well as to avoid the expense and trouble due to the great size and weight of gate valves as compared with the pipes which they control. In order to accomplish this, the size of the valve is small, the orifice in the casting being reduced quickly from the regular sized opening at the flange. Very little energy is lost as the stream decreases in size and increases in velocity as the working parts of the valve are approached and decreases in velocity as the nozzle increases in size to that of the pipe. Practically the throat of the nozzle is half the diameter of the pipe in which the valve is placed, thus giving one-quarter of the area. The operating parts in the throat of the valve are of usual construction, with two disks separated by a spring, but having attached to the lower end a ring which is drawn into place in the throat when the valve is open. This valve is claimed to make the use of a bypass unnecessary and less liable to leakage than a full size valve.



FERRANTI GATE VALVE

NEWS OF THE SOCIETIES

American Gas Institute.—The second annual convention of the organization opened at the New Willard Hotel, Washington, D. C., October 16, with President Walton Clark in the chair. About five hundred members attended. Commissioner H. B. F. Macfarland delivered an address of welcome to which Capt. William E. McKay responded. The report of the Committee on Methods of Testing Candle Power of Gas was read by Chairman W. H. Gartley. W. H. Behr read a paper on "Instructions for Operating Co-operative Benches." J. D. Shattuck reported, as Chairman of the Board of Revision of the Question Box, on "Manufacture of Gas." T. D. Miller reported on "Economic Balance Between Calorific Value and Candle-power." A paper on "Depreciation" was read by Dr. A. C. Humphreys, of New York, who declared that the day has gone by when gas companies find it profitable to keep the public in the dark as to the gas business. He discussed at considerable length methods of estimating depreciation as made by experts before various public bodies investigating such matters. Other papers read were: "Air Blast Gas Appliances," by W. K. Eavenson, and another paper on the same subject by W. H. Allen. "Discussion of Report of Committee on Meters," by M. J. Serrill. "Report of Progress of 'A' Meters," by M. J. Serrill. "Experiences with Dipping Diaphragms in Philadelphia," by W. A. Castor. "Experience with Dipping Meters in Baltimore," by George Beadenkop. "A New Carbonic Acid Gas Indicator," by Charles D. Robinson. "Air Blast Gas Appliances," by S. Tully Wilson. The election of officers and the selection of Detroit, Mich., as the place for holding the next annual meeting were features of the last day's session. The officers elected are Alexander Humphrey, New York City, President; Henry L. Doherty, Denver, Colo., First Vice-President, and W. A. Baehr, of St. Louis, Mo., Second Vice-President. The delegates were given a banquet at the New Willard in the evening. Three hundred were present, among the invited guests being Commissioner H. L. West, members of the District of Columbia Supreme Court, and men prominent in the business and official life of Washington. Charles H. Dickey, of Baltimore, Md., was toastmaster, and among the speakers were Commissioner West, Mr. Henry E. Davis, Capt. W. E. McKay, of Boston, Mass.; Arthur G. Glasgow, of Boston, Mass.; Judge De Lacy, of the Washington Juvenile Court; William H. Gartley, of Philadelphia, Pa., and Dr. Alex. C. Humphreys, President of Stevens Institute, Hoboken, N. J., and the newly elected President of the Institute.

Ohio Police Chiefs' Association.—About a hundred and twenty-five members of the Association met at the Sixth Annual Convention, October 15, at the Algonquin Hotel, Dayton, O. Secretary Whitaker addressed the convention, introducing Mayor Wright, who delivered the address of welcome. President W. W. McDowell, of Youngstown, delivered the response. Major Richard Sylvester, Chief of Police, Washington, D. C., spoke of the importance of the police of different cities keeping in touch with each other. He said he hoped that the American policeman would some day have a life tenure of office. He said he would like to see all cities adopt the

Bertillon and finger-print systems. Mrs. P. C. Holland, an expert in the Finger-print system, explained the working of this method of identification. President W. W. McDowell, of Youngstown, spoke of the necessity of cooperation between the departments of different cities. He also spoke in favor of civil service, and, above all, of the necessity of keeping politics out of the Police Department. The recommendations made in the report of the Secretary were that a committee on legislation be appointed to meet at times during the sessions of the Legislature at Columbus. Changes desired in legislation are: That the amount fixing grand and petty larceny be changed so that where the amount stolen is less than \$35 final disposition may be made in the lower court; that manufacturers of firearms be required to number all weapons, to use these numbers in billing the goods to dealers, and that retailers be required to keep a record of the names and addresses of purchasers with the number of the firearm. The following officers were unanimously elected for the ensuing year: President, T. J. Kelly, Chief of Police, Middletown; Vice-President, E. W. Tinney, Chief of Police, Conneaut; Second Vice-President, J. L. Kramer, Chief of Police, Findlay; Secretary and Treasurer, John C. Whitaker, Chief of Police, Dayton. Board of Governors: J. H. Stanberger, Chief of Police, East Cleveland; E. L. Faulder, Chief of Police, Bellefontaine, and Jacob Mintz, of the Mintz Detective Agency, Cleveland. Columbus was chosen as the place for the 1908 convention.

City Club of Philadelphia.—At a recent meeting of the club, at which George W. Burnham, Jr., presided, the members listened to an address by George McAneny, of the City Club, of New York, and President of the Bureau of Municipal Research of New York, in which he explained the organization of the city government of New York and the work of the City Club in its efforts to improve local government. He suggested that the first work of the City Club of Philadelphia ought to be the revision of the accounting departments of the city government. This, he explained, might lead to the publication of an analyzed yearly budget, showing how much was to be expended for each purpose in every department. Other reforms, he added, would follow in natural course.

American Street and Interurban Railway Association.—At the meeting of the association at Atlantic City, N. J., October 14, the subject of Municipal Ownership occupied considerable time in the proceedings. A report by a special committee was presented by C. D. Wyman, of Boston, Mass., who quoted reports from 132 cities to show that the present trend of public opinion is against municipal ownership. A general demand for government control was noted. Another committee reported that government control bills had been passed in thirty-five States, with sixteen States either appointing commissions to supervise railroads, or extending the powers of present commissions to the same end. The following officers were elected: Calvin G. Goodrich, president; James F. Shaw, first vice-president; Arthur W. Brady, second vice-president; Thomas N. McCarter, third vice-president; Bernard V. Swenson, of New York, secretary and treasurer. Executive committee: Frank R. Henry, St. Louis, Mo.; Fred G. Sellous, Milwaukee, Wis., and G. R. Goshorn, Philadelphia, Pa.

Calendar of Meetings

October 25.
Second Annual Conference of the New Jersey State and Local Boards of Health.—State House, Trenton, N. J.

November 6.
American Society of Civil Engineers.—Regular semi-monthly meeting at the house of the Society, 220 West Fifty-seventh street, New York City.—Charles Warren Hunt, Secretary.

November 12.
National Tax Association.—Conference, Columbus, O.

November 17-19.
National Municipal League.—Annual convention, Providence, R. I. (in conjunction with the American Civic Association).—Clinton Rogers Woodruff, Secretary, North American Building, Philadelphia, Pa.

November 25-27.
National Drainage Association.—Annual congress, Johns Hopkins University, Baltimore, Md.—A. G. Bernard, Chairman, Executive Committee, 1420 New York avenue, Washington, D. C.

December 26.
International Sanitary Convention of American Republics.—Third international meeting, Mexico City.—Surgeon General Walter Wyman, Chairman International Sanitary Bureau, Public Health and Marine Hospital Service, Washington, D. C.

PERSONALS

BURNELL, DR. FRANCIS, South Norwalk, Conn., has been elected Mayor of the city over Matthew Corbett.

COLLINS, F. M., Superintendent of the Lestershire, N. Y., Water Works, has resigned, and W. D. Smith now fills the position.

CONNOLLY, WILLIAM B., Newark, N. J., son of City Clerk James F. Connolly, is a member of the firm of L. J. Buckley & Co., recently organized, which has been awarded the garbage disposal contract of Newark; the senior member of the firm is engaged in various schemes as a promoter.

COOPER, JOHN B., Chief of the Fire Department, of Harrisburg, Pa., was killed, and John Cilley, Captain of the Hope Fire Company, of Harrisburg, Pa., and James A. Clark, of Pittsburg, County Commissioner, were badly injured while automobiling in Pittsburg, where the Harrisburg officials were attending the convention of the Pennsylvania firemen.

DOHERTY, HENRY L., New York City, President of the Montgomery Light and Water Power Company, one of a chain owned and operated by the company, was recently the guest at a banquet at Montgomery, Ala., given by the local officers, and announced that \$100,000 will be expended in improvements on the Montgomery plant.

JEWEL, GEN. W. H., Orlando, Fla., has been elected Mayor of the city over S. Y. Way by nineteen majority; C. R. Carter has been reelected City Marshal over T. A. Kilgore by eight majority. Members of Council were elected as follows: A. J. Beck, J. B. Walker, W. M. Smith, C. E. Howard, P. Hyer, W. A. Boone, City Clerk, and W. A. Smith, Treasurer, were both reelected without opposition.

KENDRICK, GREENE, former Mayor of Waterbury, Conn., was defeated for First Selectman of the town of West Haven recently by Walter A. Main.

LINDENBERGER, HARRY, Secretary of the Fire Department of Louisville, Ky., has resigned.

MINAHAN, ROBERT E., Mayor of Green Bay, Wis., has appointed Sol. P. Huntington member of the Fire and Police Com-

mission for five years under recently enacted law increasing the Board from four to five members, and Louis A. Sogey has been named to succeed J. W. McGiveran, resigned, the term to expire in 1911.

MORRILL, A., Superintendent of the Salem, Mass., Electric Company for twenty-five years, has been appointed assistant to the General Manager, and Harry Kingsley, Assistant Superintendent, has been promoted to Superintendent.

PEASE, WALTER D., Water Commissioner, of Cheyenne, Wyo., and formerly City Engineer, died recently, aged seventy-three years.

ROONEY, JOHN J., JR., Cincinnati, O., has been appointed assistant engineer in the City Viaduct Department, vice Thomas Chuck, resigned.

RUFF, GEORGE, Street Commissioner of East St. Louis, Ill., for many years, has resigned on account of age, and Fred Lockner has been appointed to the position.

SCHLEUTER, FRED., Alderman of East Moline, Ill., formerly Chairman of the Street and Alley Committee, has resigned, to accept the position of Street Commissioner, to which he was appointed by Mayor Johnson, to succeed Arthur Stinson, who has filled the position for nearly a year.

SCHOFIELD, CHARLES A., Norwalk, Conn., has been elected Mayor of the city over Ferdinand Smith.

STEVENS, DAVID, City Clerk of Newport, R. I., for five years, died recently, aged sixty-six years.

THOMAS, WILLIAM E., Mayor of Waterbury, Conn., has been reelected over John E. Sewell, as has William H. Sandland, City Clerk, over former City Clerk William H. Moher; E. L. Tuttle has been elected City Treasurer; M. D. Russell, Comptroller, and F. P. Brett, Town Clerk.

WARE, FRANKLIN B., New York City, has been appointed by Governor Hughes as State Architect at a salary of \$7,500 per annum vice George L. Heins, deceased, to hold office during the pleasure of the Governor. Mr. Ware is an ex-Alderman, graduated from the Architectural Department, is thirty-four years old, and a member of the architectural firm of James E. Ware & Sons.

WEAVER, G. NORMAN, Secretary and Director of the Newport, R. I., Water Works, and Consulting Engineer, who had engaged in construction of water works in a number of other cities, died at his home recently, aged fifty-seven years.

WILLIAMS, RICHARD S., City Treasurer of Montgomery, Ala., for six years, has resigned to accept a position with the Alabama Bank and Trust Company, which is soon to be formed.

MARTIN, JAMES B., New Haven, Conn., has been elected Mayor of the city over Minotte E. Chatfield to succeed John P. Studley on January 1; other officers elected were:

Controller—Jonathan N. Rowe.
Treasurer—Henry Fresenius.
City Clerk—James J. Devine.
Collector—Francis G. Anthony.
City Sheriff—Patrick McGuinness.
Town Clerk—Fred E. Whitaker.
Aldermen-at-Large—Barnett Berman, Julius Jansen, Michael Burke, J. Edmund Miller, Frank Kenna, Andrew P. Allen.
Aldermen—First Ward, Henry H. Townsend; Second Ward, John J. Chandler; Third Ward, Joseph H. Mulvey; Fourth Ward, Patrick S. Cunningham; Fifth Ward, Antonio Vanaacari; Sixth Ward, Patrick J. Collins; Seventh Ward, Nicholas J. Leonard; Eighth Ward, Emil Loos; Ninth Ward, David E. Foley; Tenth Ward, L. Erwin Jacobs; Eleventh Ward, Richard B. Healy; Twelfth Ward, William H. Marlowe; Thirteenth Ward, Frank H. Belden, Jr.; Fourteenth Ward, Berne A. Russell; Fifteenth Ward, Charles H. Stanton.

Selectmen—Henry Hillman, Anthony Verdi, James E. Kelleher, James McCoughlin, Samuel J. Bowman.

BOOK REVIEWS

A Treatise on the Law of Municipal Ordinances.—By Eugene McQuillin, of the St. Louis, Mo., Bar. Callaghan & Co., Chicago. 1904. 6x9½ inches, leather, 1,034 pages. Price, \$6.00.

Referring to the importance of municipal affairs, inasmuch as 40 per cent. of the population of the United States is urban, and by far the largest portion of the taxes paid by city dwellers is for local government purposes, the author notes that there has been a tendency, along with the growth of cities, to extend municipal powers to new fields through legislation, the passage of ordinances and court decisions. Accordingly, the need of a satisfactory treatise on ordinances, the legislative acts of the local governing body, is apparent. This is supplied in part by standard textbooks and by the commentaries of Judge Dillon on the "Law of Municipal Corporations." The present work deals with every phase of the law of municipal ordinances, brought up to the date of publication. The work covers over 1,000 pages, embracing nearly 600 sections, with appropriate catch words and numerous notes. The legal rules and principles are concisely stated, and the reasons supporting them and their practical application are shown by the cases determined. Besides the official reports, parallel references are made to the Reporter System, American Decisions, Reports and State Reports, and to the Lawyers' Reports Annotated. The cross references are numerous and specific. For convenience catch words have been freely employed in the notes, and the index is complete, making easily accessible complete information as to text and notes. The subject is subdivided as follows: The general nature and requisites of valid municipal ordinances; the power to enact ordinances, including a general review of the nature of municipal corporations, their creation and the construction and exercise of general corporate powers; the enactment of ordinances, with the rules of meetings and proceedings of council, the keeping of records and legal procedure of passing ordinances; penalties of various sorts for violation of ordinances and the methods of enforcing them; the reasonableness of ordinances, including ordinances regarding monopolies and in restraint of trade; amendment and repeal of ordinances; the constitutionality of ordinances, with reference to those impairing the obligation of contracts or attempting to interfere with interstate commerce; the validity of ordinances and the method of testing it; action to enforce police ordinances, giving the procedure; pleading ordinances in civil proceedings; evidence of ordinances, the methods of proving their existence; ordinances relating to taxation and license tax, with the distinction between licenses to regulate and to raise revenue; police powers, defining their general nature and specifically dealing with health and sanitary regulations, matters of public safety, offenses against public morals, markets and miscellaneous regulations; municipal control of offenses against the State; public improvement ordinances and, perhaps the most important subject of all at the present time, franchise ordinances. On the whole, this work seems indispensable to city attorneys. It deserves a wider

use, however, among municipal officials and others interested in city government, and on account of its clearness and method of indexing will afford a convenient and invaluable reference book.

Making a Municipal Budget. Functional Accounts and Operative Statistics for the Department of Health of Greater New York. Published by the Bureau of Municipal Research. 1907. Price, 50 cents.—This publication is a new departure from the usual method of treating municipal affairs. Students of municipal affairs have been in the habit of either laying out large theoretical schemes as to how municipalities should be governed or of directing merciless criticism against the wasteful, inefficient and unscientific methods of municipal government. "Making a Municipal Budget" is neither mere theory nor pure criticism. It is the result of an exhaustive and careful study of the business of the Department of Health of Greater New York and of actual experiment with a system of records and accounts introduced by the Bureau of Municipal Research in co-operation with the Health Department and officials, and at present successfully in vogue in that department, by which efficiency and service rendered to the city can be scientifically measured and compared with the cost of this service to the city. In choosing the Department of Health as a basis for its study and experiments, the Bureau of Municipal Research had in mind that efficiency in protecting health is the most serious business of the community, and lends itself especially to statistical measurement and analysis. The largest part of the 172 pages of the volume is devoted to statistical and accounting forms recently introduced by the Bureau of Municipal Research, and upon which this study is based. The work should appeal to all city officials who are responsible for the health of the community, all public spirited citizens, and especially to those who are interested in the much neglected subject of budget making.

Hendricks Commercial Register of the United States.—Sixteenth Annual Edition. Cloth, 8x14 inches, 1,300 pages. Samuel E. Hendricks & Co., New York; 1907. Price, \$10. This register is an index of agricultural, mechanical, engineering, contracting, electrical railroad, iron, steel, mining, mill, quarrying, exporting and kindred industries. Articles of manufacture are classified according to the name of the article made. In the case of articles made by a large number of firms, there is a geographical sub-classification. The index alone occupies sixty-seven pages, and the book throughout is replete with valuable information, so arranged as to be readily accessible. Altogether 350,000 names and addresses are classified under 31,212 headings.

Springfield, Mass., Board of Trade. Year Book, 1907. Henry H. Bowman, President.—This handsomely printed and illustrated book gives the by-laws of the Board and lists of officers and members. The work of the year is reviewed, the participation in the meetings of the State and National Boards of Trade and the local work of improving the river front and promoting the plan for making the Connecticut river navigable.

THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage, Water Supply and Public Lighting—Fire Equipment and Supplies—Buildings, Bridges and Street Railways—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we can not guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
Street Improvements				
Missouri	Kansas City	October 24, 11 A.M.	Constructing asphalt pavements, portions 3 avenues.	E. A. Harper, City Engineer.
New Hampshire	Concord	October 24, noon	Grading and macadamizing 10 miles, also one mile of road.	Quint E. Smith, Engineer.
Indiana	Fort Wayne	October 24, 7:30 P.M.	Paving Knitters Ave. with vitrified block.	H. W. Becker, Clk. Bd. Pub. Wks. Park Board.
New York	New York	October 24	Furnishing 1,000 cu. yds. broken stone and screenings for parks.	A. R. Callow, Sec'y Bd. Pub. Serv.
Ohio	Cleveland	October 24	Grading and improving portion of West Boulevard.	C. J. Poetsch, City Engineer.
Wisconsin	Milwaukee	October 25, 10:30 A.M.	Bldg. brick walk on concrete; also furn. \$1,500 crushed stone and \$500 stone screenings for street improvements.	Elmer Keeler, Supt. Highways.
Minnesota	Lake Benton	October 25, 2 P.M.	Repairing Rush Lake grade, including 1,200 yds. earthwork filling, 500 yds. stone rip-rap, 75 yds. gravel.	F. C. Grove, Village Clerk.
Ohio	Logan	October 26	Grading, guttering, and macadamizing Zanesville road.	R. L. Jordan, Village Clerk.
Ohio	Richwood	October 26	Macadamizing, laying curb and gutter, retaining wall, Franklin Street.	Frank Williamson, Village Clerk.
Ohio	Mount Healthy	October 27	Constructing cement walks in St. Joseph street.	
New Jersey	Atlantic City	October 28, 8 P.M.	Bldg. board walk along Ocean front from Pacific to Conn. Ave., 2,920 ft. long, wood floor on wood or rein. concrete joists, girders and columns.	Wm. Riddle, Chm. Council Com.
New York	New York	October 29, 11 A.M.	Regulating, grading, bldg. approaches, etc., Johnson Ave.	Louis F. Hallen, Boro. Pres. Bronx.
Missouri	St. Louis	October 29, noon	Paving 2 sts. with wood block, 3 with brick.	A. J. O'Reilly, Pres. Bd. Pub. Imp.
Ohio	Cleveland	October 30, 11 A.M.	Repairing pavements, Wooster pike, Middleburg and Strongville townships.	A. B. Lea, County Surveyor.
New York	Brooklyn	October 30, 11 A.M.	Asphalt paving, regulating sts., etc.; 11 contracts.	Bird S. Coler, Boro. Pres.
Iowa	Des Moines	October 30	Paving portions of three streets with vit. paving blocks.	W. W. Wise, Bd. Pub. Wks.
Arkansas	Argenta	October 31, 11 A.M.	Constructing extension to sidewalks at Port Logan H. Roots.	Quartermaster Fort L. H. Roots.
Iowa	Des Moines	October 31	Paving 3,280 sq. yds. W. Walnut St. with asphalt.	W. W. Wise, Bd. Pub. Wks.
Ohio	Cincinnati	November 1, noon	Improving Hamilton pike from Mt. Healthy to Butler Co. line.	Fred Drehs, County Clerk.
Indiana	Fort Wayne	November 2, 10 A.M.	Constructing 16,340 ft. macadam road in Madison twp.	George W. Lindemuth, Co. Auditor.
Indiana	Greencastle	November 2	Constructing 16,340 ft. gravel road in Russell twp.; improving 10,566 ft. macadam road in Monroe township.	C. C. Hunt, County Auditor.
Indiana	Decatur	November 4, 10 A.M.	Constructing macadam roads in Root and Kirklin twps.	C. D. Lewton, County Auditor.
Indiana	Peru	November 4, noon	Establishing, grading, draining, paving 2 1/2 miles of free gravel roads in Richland township.	Charles Griswold, County Auditor.
Indiana	Jasper	November 4, 1 P.M.	Grading, draining, paving with stone, 4,235 ft. road, Patatia twp.	M. A. Sweeney, Co. Auditor.
Indiana	Salem	Nov'ber 4, 1:30 P.M.	Constructing 7 gravel roads in Monroe, Pierce and Jackson townships, 20 1/2 miles long; cost, \$46,307.	Sam G. Ellis, County Auditor.
Wisconsin	Fond du Lac	November 4, 2 P.M.	Granitoid alley paving.	L. A. Pettibone, City Eng.
Indiana	Logansport	November 4	Constructing 2 gravel roads, 4 miles long; also 2 others.	George W. Cann, County Auditor.
Indiana	Hope	November 4	Constructing mile of road in Columbus township.	W. O. Clark, Chm. Co. Com'rs.
Indiana	Crawfordsville	November 5, 10 A.M.	Constructing, etc., gravel road in Union township.	B. F. Carmin, County Auditor.
Indiana	Vincennes	November 5, 2 P.M.	Constructing 104,602 ft. gravel road, Decker twp.; 10,268 ft. Vinc.	John T. Scott, Co. Auditor.
Pennsylvania	Millvale	November 5	Paving and setting curb.	Borough Clerk.
Ohio	Cleveland	November 6	Completing Miles Avenue improvement.	A. B. Lea, County Engineer.
California	Redding	November 7, 10 A.M.	Clearing and building wagon road 20 1/2 miles long.	S. N. Witherow, Clk. Bd. Superv.
Indiana	Rockville	November 7, 1 P.M.	Constructing macadam road between Parke & Fountain Cos.	H. A. Henderson, Co. Auditor.
Ohio	Troy	November 12, 10 A.M.	Bldg. 2,800 lin. ft. macadam road, near W. Milton.	E. E. Pearson, County Auditor.
Florida	Pensacola	November 15, noon	Constructing 107,700 sq. yds. clay or shale block, sheet asphalt, bitulithic, wood block or macadam pavement and 115,950 lin. ft. concrete curb.	T. Chalkley Hatton, Ch. Eng.
Utah	Salt Lake City	December 6	Grading, paving and curbing First South St., inc. 60,000 cu. yds. grading, 17,000 lin. ft. curb, 41,000 sq. yds. asphalt.	Louis C. Kelsey, City Engineer.
Water Supply				
Wisconsin	De Pere	October 25, 4 P.M.	Materials and labor for water works extension, inc. 840 ft. 10 in., 3,200 ft. 8-in., 500 ft. 6-in. c. i. pipe, 7,500 lbs. specials, etc.	M. J. Maes, City Clerk.
Illinois	Chicago	October 28, 10:15 A.M.	Water service pipes, 16 sts.; water supply pipes, 3 sts.	H. S. Dietrich, Pres. Bd. Local Imp.
Indiana	Rangoon	October 31	Pumping plant, in duplicate, capable of raising 10,000 gals. per minute, 220 ft. for the municipality.	Ogilvy, Gillanders & Co., 67 Sun Court, Cornhill, London E.C., Eng.
Maryland	Berlin	October 31	Franchise for water works, electric light and ice plant.	Orlando Harrison, Mayor.
Dist. of Col'bia	Washington	Nov'ber 4, 10:30 A.M.	Furn. water meters, etc., Circ. 396, 18th. Canal Com'n.	H. F. Hodges, Gen. Pur. Agt.
Arizona	Tucson	November 4, 8 P.M.	Furn. material and constructing water works system.	Frank S. Treat, City Recorder.
Colorado	New Fort Lyon	Nov'ber 5, 10 A.M.	Installing water system at Naval Hospital, Schedule 385.	Navy Dept., Wash., D. C.
California	Oceanside	November 5, 7 P.M.	Furn. horizontal return tubular boiler 48-in. diam., 16 ft. long and cross-compound, high duty engine, 1,000 gals. capacity.	H. D. Brodie, City Clerk.
Oklahoma	Chillico	November 7, 2 P.M.	Improving water system at Chillico, Indian School.	S. M. McCowan, Superintendent.
New York	Fort Terry	November 11	Furnishing material and sinking 6-in. tubular well.	Capt. Wm. E. Horton, Q. M.
Minnesota	Pipestone	November 12, 2 P.M.	Erecting tank, tower, etc., also buildings.	Willard S. Campbell, Superintendent.
Georgia	Atlanta	November 12	Furnishing 26-in. pipe to complete main to reservoir.	Park Woodward, Gen. Mgr. W. W.
Manitoba	Winnipeg	November 15, noon	Supplying 15 miles of assorted water pipe.	H. N. Rutten, City Engineer.
Georgia	Atlanta	November 25	Furnishing 20,000,000 and 25,000,000 vertical or cen. pumps.	Park Woodward, Gen. Mgr. W. W.
Arizona	Phoenix	December 1, 3:30 P.M.	Labor and material for water works improvements.	Robert Craig, Superintendent.
Idaho	Shelley	December 1	Constructing water works, to cost \$6,500.	N. N. Holm, Engineer.
Georgia	Millen	December 1	Constructing water and electric light systems.	H. Q. Bell, Mayor.
New Jersey	Camden	December 17, 8 P.M.	Improving present artesian water supply system and adding to 17,000,000-gal. supply at least 5,000,000-gals. daily.	Jas. Potter, Chm. Water Com.
Sewerage				
Iowa	Cedar Rapids	October 24, 10 A.M.	Constructing 6 and 8-in. pipe sewers.	W. C. Byers, Chm. Pub. Imp. Com.
Missouri	Kansas City	October 24, 11 A.M.	Constructing district sewers in three districts.	E. A. Harper, City Engineer.
Ohio	Toledo	October 24, noon	Labor and material for constructing local sewers 1,010 and 1,013.	Reynold Voit, Sec'y Bd. Pub. Serv.
Ohio	Cleveland	October 24, noon	Constructing sewers in Barkwell Ave. and W. 65th St.	A. R. Callow, Sec'y Bd. Pub. Serv.
Indiana	N. Manchester	October 24	Constructing \$10,000 sanitary and drainage system.	W. Fowler, Wabash, Eng.
Wisconsin	Green Bay	October 24	Labor and material for constructing vit. pipe sewers.	W. W. Reed, City Engineer.
Indiana	Terre Haute	October 25, 4 P.M.	Constructing sewers in four streets.	Pat'k Walsh, Pres. Bd. Pub. Works.
Ohio	Gibsonburg	October 25	Constructing main tile sewer, catch basins, manholes, etc.	W. O. Ditman, City Clerk.
Minnesota	St. Paul	October 28, 2 P.M.	Constructing two sewers Ravoux St.; Paschal and Lincoln Aves.	R. L. Gorman, Clk. Bd. Pub. Wks.
South Dakota	Aberdeen	October 28, 8 P.M.	Constructing any and all sewers ordered by Council.	F. W. Raymond, City Auditor.
Ohio	Newark	October 28	Laying 18-in. tile sewer in Walnut from 3d to 2d St.	L. B. Munch, Clk. Bd. Pub. Serv.
Ohio	Zanesville	October 28	Constructing sanitary sewer in Granite alley.	P. J. Kerwin, Sec'y Bd. Pub. Serv.
Iowa	Des Moines	October 29, 11 A.M.	Constructing septic tank, Center Blvd. and John Lynd Road.	W. W. Wise, Bd. Pub. Works.
Michigan	Tecumseh	October 29, 1 P.M.	Constructing 55,760 lin. ft. 6 to 15-inch pipe sewers.	W. L. Jones, Village Clerk.
New York	Troy	October 29	Furn. material and laying vit. tile sewer, portion Tibbits Ave.	
Pennsylvania	Ardmore	October 31	Constructing 1,575 ft. terra cotta sewer in Lehigh Ave.	R. A. Warner, Supt. Health & Drain.
Iowa	Des Moines	November 4	Constructing brick culvert on 27th St. near Clark St.	W. W. Wise, Bd. Pub. Works.
Pennsylvania	Millvale	November 5	Constructing a sewer.	Borough Clerk.
New York	White Plains	November 7, 1:30 P.M.	Constructing 7 sections, inc. 12 miles circular sewer, 3 1/2 to 6 ft. diam. and 3 miles circular-lined tunnel 6 1/2-8 1/2 ft. diam. of monolithic rein. concrete, block or brick masonry.	Frank N. Glover, Sec'y B. V. Sew. Cm.
Ohio	Chagrin Falls	November 9, noon	Constructing sewerage system and disposal plant; cost, \$56,000.	W. P. Rice, Eng. Co. Cleveland.

Sewerage—Continued.

Florida.....	Pensacola.....	November 11, 3 P.M.	Sewerage and plumbing at Santa Rosa Quarantine Station.....	James Knox Taylor, Wash., D. C.
Indiana.....	Aurora.....	November 11, 7 P.M.	Constructing 6-20-in. vit. tile sewers; Dist. No. 1; cost, \$12,500.	Frank D. Johnston, City Clerk.
Michigan.....	Cadillac.....	December 2, noon.....	Building sewage purification works and pumping station.....	George Johnson, Clk. Bd. Pub. Wks.
New York.....	Auburn.....	December 3, 8 P.M.	Constructing Fourth, Fifth, Sixth, and Seventh Ward sewers and disposal plant, inc. 37, 150 ft. 8-20 in. pipe, etc.....	J. Walter Ackerman, City Eng.

Public Buildings

Dist. of Col'bia.	Washington.....	October 24, 2 P.M.	Furn. and setting buff Bedford limestone, marble column shafts and base for screens in rotunda new Nat'l Museum Bldg.....	Bernard R. Green, Supt. of Constr.
Dist. of Col'bia.	Washington.....	October 24, 2 P.M.	Concrete, green slate and copper roofing, skylights, National Museum.....	Bernard R. Green, Supt. Constr.
Iowa.....	Lacey.....	October 24.....	Erecting school house, Sub. District No. 2, Adams Township.....	C. A. Briney, Sec'y Sch. Bd.
Ontario.....	Toronto.....	October 24.....	Heating, plumbing, wiring, etc., 4 new normal schools; \$50,000;	H. F. McNaughten, Sec'y P. W. D.
North Carolina.	Winston-Salem.....	October 25, 10 A.M.	Erecting, complete, new County jail.....	F. P. Milburn & Co., Wash., D. C., Architects.
North Carolina.	Raleigh.....	October 25, noon.....	Erecting 4-story brick addition to State Hospital for Insane, etc.	Barrett & Thomson, Archs.
Louisiana.....	Greenwood.....	October 25.....	Erecting 2-story brick school; city to furnish brick.....	S. A. Alexander.
Missouri.....	Kansas City.....	October 26, 2 P.M.	General contract for furnishing work on General Hospital.....	Root & Siemens, Architects.
Minnesota.....	Mankato.....	October 26.....	Erecting, plumbing, heating, etc., bldg. for State Normal School.	State Bd. Control, St. Paul.
Minnesota.....	Rochester.....	October 26.....	Erecting, plumbing, heating, etc., Ward C, State Hospital.....	C. H. Johnston, St. Paul, Arch.
Ohio.....	Chaucney.....	October 26.....	Erecting a prison.....	Ray C. Gardner, Village Clerk.
Illinois.....	East St. Louis.....	October 28, 3 P.M.	Constructing, complete, Federal Building.....	James Knox Taylor, Wash., D. C.
Indiana.....	Salem.....	October 28, 7:30 P.M.	Erecting joint graded high school, complete.....	E. F. Routh, Architect.
New York.....	New York.....	October 29, 2 P.M.	Erecting field office bldg. for water engineers at Marletown.....	J. Waldo Smith, Eng. Bd. Wat. Sup.
Indiana.....	Terre Haute.....	October 30, noon.....	Constructing new County jail, Sheriff's residence and heating plant, including remodeling present jail.....	J. W. Denehie, County Auditor.
Georgia.....	Atlanta.....	October 30, 3 P.M.	Constructing superstructure of Federal Building.....	James Knox Taylor, Wash., D. C.
Missouri.....	Kansas City.....	October 31, 11 A.M.	Erecting bldgs., etc., Co. Home for Aged and Infirm; cost, \$250,000.....	Smith & Rea, Dwight Bldg., Archs.
New York.....	New York.....	October 31, noon.....	Material and labor for preparing for and building new ferry house, foot Whitehall St., Manhattan.....	J. A. Benschel, Com'r Docks.
Wisconsin.....	Milwaukee.....	October 31, 5 P.M.	Erecting school building; also razing old one.....	F. M. Harbach, Sec'y Sch. Dir.
Missouri.....	Independence.....	October 31.....	Constructing 3 three-story buildings for Co. Home, cost \$225,000.	Frank S. Rea, Kansas City, Arch.
Wisconsin.....	St. Croix Falls.....	November 1, 2 P.M.	Erecting one-story to jail building, lighting, plumbing, etc.....	F. D. Orr, Minnpls., Minn., Arch.
Connecticut.....	New Haven.....	November 1, 8 P.M.	Erecting Assembly Hall; also public school building.....	Geo. T. Hewlett, Sec'y Bd. Educ.
New York.....	Stamford.....	November 1.....	Erecting 2-story 62 x 86 ft. cement, press brick and limestone school.....	E. W. Van Slyke, Binghamton, Arch.
Oklahoma.....	Mangum.....	November 1.....	Erecting County jail, to cost \$25,000.....	Floyd McJ. Neil, County Clerk.
Louisiana.....	New Orleans.....	November 2, 11 A.M.	Erecting dispensary building, etc., for naval station.....	Navy Department, Wash., D. C.
Louisiana.....	Leesville.....	November 4, 12:30 P.M.	Constructing, heating, wiring, etc., County Building.....	C. H. Oakes, Clk. Police Jury.
South Dakota.....	Pierre.....	November 4, 2 P.M.	Erecting 2 bldgs.; additions and electric light plant.....	J. C. Levengood, Supt. School.
Indiana.....	Bloomfield.....	November 5, 2 P.M.	Erecting new jail cell house.....	J. W. Gaddis, Vincennes, Arch.
Michigan.....	Flint.....	November 5, 3 P.M.	Constructing, complete, U. S. Post Office.....	James Knox Taylor, Wash., D. C.
Texas.....	Houston.....	November 5.....	Plans and specifications for \$500,000 fireproof Court House.....	Geo. F. Horton, County Engineer.
Alabama.....	Luverne.....	November 6, 10 A.M.	Constructing fireproof jail.....	E. J. Ostling, Birmingham, Arch.
Louisiana.....	New Orleans.....	November 11, 1 P.M.	Erecting City Hall annex building.....	Wm. J. Hardee, City Engineer.
Ohio.....	Cincinnati.....	November 11.....	Constructing school at Westwood 1, to cost \$150,000.....	Garber & Woodward, Archs.
Minnesota.....	Pipestone.....	November 12, 2 P.M.	Constructing stone warehouse, hospitals, etc.....	Willard S. Campbell, Superintendent.
Washington.....	Seattle.....	November 12, 3 P.M.	Erecting Engineering, Chemistry, and Auditorium bldgs. State University.....	A. P. Sawyer, President.
New Jersey.....	Jersey City.....	November 14.....	Erecting annex to School No. 14.....	Board of Education.
Wisconsin.....	Chippewa Falls.....	November 15, 3 P.M.	Constructing, complete, U. S. Post Office.....	James Knox Taylor, Wash., D. C.
Virginia.....	Portsmouth.....	November 22, 3 P.M.	Constructing, complete, Federal Building.....	James Knox Taylor, Wash., D. C.
Texas.....	Tyler.....	November 25, 3 P.M.	Constructing, complete, extension to Federal Building.....	James Knox Taylor, Wash., D. C.

Bridges

Dist. of Col'bia.	Washington.....	October 24, 10:30 A.M.	Steel railroad bridge for Isthmian Canal Commission.....	H. F. Hodges, Gen. Pur. Agent.
Idaho.....	Hailey.....	October 24.....	Constructing 3 bridges; one across Big Lost River; one across Spring Hollow; one across James Creek.....	W. F. Horne, County Clerk.
Illinois.....	Chicago.....	October 26, 11 A.M.	Erecting sub and superstructure bascule bridge, N. branch.....	John J. Hanberg, Com'r Pub. Works.
Ohio.....	Eaton.....	October 26, 1:30 P.M.	Erecting bridge over Elkhorn Creek, Sec. 8, Jackson township.....	C. W. Eidson, Co. Auditor.
Indian Terr'y.	Sulphur Springs.....	October 28, 10 A.M.	Erecting suspension footbridge in Platt Park.....	Supt. Platt Nat'l Park.
Washington.....	Walla Walla.....	October 28, 2 P.M.	Erecting bridge over Mill Creek, in N. Fourth St.....	J. B. Wilson, City Engineer.
New Jersey.....	Mt. Holly.....	October 28.....	Concrete abutments, steel superstructure, grading, etc., bridge.....	Joel Horner, Dir. Freeholders.
New York.....	New York.....	October 29, 2 P.M.	Furn. steel and hardware supplies to Harlem River bridges.....	J. W. Stevenson, Com'r Bridges.
Ohio.....	Toledo.....	October 30, 10 A.M.	Erecting 2 concrete masonry abutments, bridge, Wash., twp.....	County Commissioners.
Maryland.....	Williamsport.....	October 30, noon.....	Erecting rein. concrete arch bridge, 15 spans, 1,570 ft. long, over Potomac River by Washington & Berkeley, Bridge Co.....	Edward W. Byron, Secretary.
Ohio.....	Ashland.....	November 4, noon.....	Labor and material for substructure bridge in Clear Creek twp; also steel superstructure and stone abutments; filling approaches.....	E. B. Westover, County Auditor.
Kansas.....	Wichita.....	November 4.....	Erecting 4 steel bridges, 16 ft. wide, 70, 60, 40, and 30 ft. long; also 4 other structures 60 to 80 ft. long.....	County Commissioners.
Indiana.....	Vincennes.....	November 5.....	Erecting 20 new bridges and repairing 4 old ones.....	J. S. Spiker, County Engineer.
Pennsylvania.....	Millvale.....	November 5.....	Constructing bridge over Girty Run.....	Borough Clerk.
Pennsylvania.....	Mauch Chunk.....	November 7.....	Erecting new eastern span on bridge over Lehigh River.....	D. O. Straup, Chm. Co. Com'srs.
California.....	Redding.....	November 8, 10 A.M.	Erecting bridge over Sacramento River, near Castle Craig.....	S. N. Witherow, Clk. Bd. Superv.
Ohio.....	Troy.....	November 12, 10 A.M.	Erecting substructure for bridge and rein. concrete culvert.....	H. J. Walker, County Engineer.
Montana.....	Glendive.....	November 15, 2 P.M.	Constructing 14 steel bridges, Lower Yellowstone Project.....	U. S. Reclamation Service.
Oregon.....	Portland.....	November 15, 4 P.M.	Erecting steel bridge in Union Ave.....	Douglas W. Taylor, City Engineer.

Lighting and Electricity

New York.....	New York.....	October 24, 2 P.M.	Electrical equipment for University Heights bridge.....	J. W. Stevenson, Com'r Bridges.
New York.....	New York.....	October 24.....	Train spacing signals for "L" tracks on Brooklyn Bridge.....	J. W. Stevenson, Com'r Bridges.
Ontario.....	Toronto.....	October 24.....	Electric wiring, heating, etc., 4 new normal schools; cost, \$50,000.....	H. F. McNaughten, Sec'y B. P. W. D.
Illinois.....	Chicago.....	October 26, 11 A.M.	Furnishing 2,500 a. c. series arc lamps, 10 single phase, 60 cycle, oil insulated, salt-cooled, step-down transformers, 50 inductive regulators, 125 miles No. 6 copper wire, 150 electric lamp posts.....	Wm. Carroll, City Electrician.
Minnesota.....	Rochester.....	October 26.....	Electric work, erecting, etc., Ward C. State Hospital.....	State Bd. Control, St. Paul.
Minnesota.....	Mankato.....	October 26.....	Electric work, erecting, etc., bldg. at State Normal School.....	C. H. Johnston, St. Paul, Arch.
New York.....	Brooklyn.....	October 28, 11 A.M.	Installing electric equipment in new Public School No. 5.....	C. B. J. Snyder, Supt. Sch. Bldgs.
Indiana.....	Evansville.....	October 28.....	Wiring new County Infirmary building.....	Harry Stinson, Co. Auditor.
Michigan.....	Bay City.....	October 30, 3 P.M.	Furn. steam and electrical machinery to reestablish electric plant.....	C. J. Barnett, City Compt'r.
California.....	Fresno.....	October 30, 3 P.M.	Furnishing light fixtures for Federal buildings.....	James Knox Taylor, Wash., D. C.
Maryland.....	Berlin.....	October 31.....	Franchise for water works and electric light plant.....	Orlando Harrison, Mayor.
Indiana.....	Seymour.....	November 1.....	Furnishing gas for light and fuel and electricity for light and power.....	Fred Everback, City Clerk.
Dist. of Col'bia.	Washington.....	Nov'ber 4, 10:30 A.M.	Furn. electrical fixtures, belting, etc., Isth. Canal Com'n.....	H. F. Hodges, Gen. Pur. Agt.
Louisiana.....	Leesville.....	November 4, 12:30 P.M.	Electric wiring, etc., building for Police Jury.....	C. H. Page, Jr. & Bro., Austin, Tex., Architects.
South Dakota.....	Pierre.....	November 4, 2 P.M.	Erecting electric light plant, 3 bldgs., wiring, etc.....	J. C. Levengood, Supt. Ind. Sch.
Indiana.....	Kokomo.....	November 8, 10 A.M.	Furnishing electric lights for streets and public buildings.....	W. T. Meek, City Clerk.
Colorado.....	New Fort Lyon.....	November 9, 11 A.M.	Erecting central power, light and heating plant, Naval Hospital.....	Navy Department, Washington, D.C.
Ohio.....	Cincinnati.....	November 14.....	Furnishing material and installing light fixtures for Soldiers' and Sailors' Memorial Building.....	Sam'l Hannaford & Sons, Architects.
Dist. of Col'bia.	Washington.....	November 14.....	Furn. fire alarm telegraph system, marine electric fixtures, batteries, etc., Isthmian Canal Commission.....	H. F. Hodges, Gen. Pur. Agent.
South Carolina.	Charleston.....	November 15, noon.....	Lighting sts. and public bldgs., 1, 2 or 4 yrs., inc. 500 arc lights or equivalent in 5 ft. gas burners.....	Ion Simons, City Electrician.
Georgia.....	Millen.....	December 1.....	Constructing electric light and water systems.....	J. B. McCrary & Co., Atlanta, Eng.
Indian Terr'y.	Red Fork.....	December 20.....	Constructing electric railway and power plant to serve Red Fork, Tulsa, W. Tulsa and Glen Pool; cost of plant, \$100,000.....	J. Robert Purnham, Tulsa, Engineer.
India.....	Calcutta.....	December 31.....	Lighting town by electricity, gas, oil, or other method; now lighted by 0,300 gas lamps of 24 c.p. and 2,400 c.p. oil lamps.....	Mid-continental Traction Co.

Municipal Council.

Miscellaneous

Missouri.....	Kansas City.....	October 24, 11 A.M.	Material and labor for planting trees on number of streets.....	E. A. Harper, City Engineer.
New York.....	New York.....	October 24, 3 P.M.	Installing flash-light signal system, elevators, Custom House....	James Knox Taylor, Wash., D. C.
Michigan.....	Grand Rapids.....	October 24, 8 P.M.	Constructing dock line and excavating for flood protection.....	Sam'l A. Freshney, Bd. Pub. Works.
Georgia.....	Toccoa.....	October 24.....	Constructing retaining wall rein. concrete, 850 ft. long, eight sets concrete steps, walks, 5, 6, 8 ft. wide, etc., new Court House....	B. P. Brown, Jr., Co. Auditor.
Wisconsin.....	Milwaukee.....	October 25, 10:30 A.M.	Building chimney, Kinnickinnic River, pumping station.....	C. J. Poetsch, City Engineer.
California.....	Berkeley.....	October 26.....	Constructing wharf and approach thereto in San Francisco Bay....	J. V. Mendenhall, Clk. Bd. Trus.
Quebec.....	St. Alphonse.....	October 26.....	Constructing extension to wharf.....	J. C. Tache, Chicoutime, Res. Eng.
New York.....	New York.....	October 29, 11 A.M.	Bldg. anchorages for concrete retaining wall; also drain at R.R. bridge inc. 500 cu. yds. exc.; c. i. pipe, 6,200 ft. 4-in. steel wire cable.....	Louis F. Haffen, Boro. Bronx.
New York.....	New York.....	October 29, noon.....	Furnishing automobile runabout.....	Geo. Cromwell, Boro. Richmond.
Ohio.....	Cincinnati.....	October 29, noon.....	Constructing narrow-gage coal and ash handling trucks, also for furnishing and delivering material, and for laying at the river and main water pumping stations.....	E. G. Prior, Clerk Com'r W. W.
New York.....	New York.....	October 30, 10:30 A.M.	Repairs and alterations to fireboat Abram S. Hewitt.....	F. J. Lantry, Fire Commissioner.
Georgia.....	Columbus.....	October 31.....	Furnishing 1,000 ft. cotton fabric rubber-lined fire hose.....	W. C. Lawrence, Chairman.
Dist. of Col'bia.	Washington.....	Nov'ber 4, 10:30 A.M.	Furn. oil tanks, lamps, bolts, hose, clamps, etc., Canal Com'n.....	H. F. Hodges, Gen. Pur. Agt., I.C.C.
Minnesota.....	Moorhead.....	November 4.....	Furnishing 1,000 ft. of fire hose.....	H. E. Roberts, City Clerk.
Dist. of Col'bia.	Washington.....	November 8.....	Furn. Portland cement, boiler, feed pumps, etc., Isth. Canal Commission.....	H. F. Hodges, Gen. Pur. Agent.
Dist. of Col'bia.	Washington.....	November 14.....	Furn. firemen's helmets, fire alarm system, hose, nozzles, fire harness, attachments, etc., Isthmian Canal Com.....	H. F. Hodges, Gen. Pur. Agent.
Pennsylvania.....	Altoona.....	November 15.....	Collection and disposal of garbage.....	Frank Engstrom, City Eng.
Texas.....	Dallas.....	November 18.....	Building locks and dams 2 and 4 on Trinity River.....	Capt. W. P. Wooten, Eng. Corps.

STREET IMPROVEMENTS

Montgomery, Ala.—An ordinance has been passed to issue \$5,200 of paving bonds.

Atlanta, Ga.—It is contemplated to coat with asphalt the principal streets now paved with Belgian block, and to purchase the necessary asphalt paving machinery.—H. L. Collier, Commissioner of Public Works.

Waycross, Ga.—The property owners of Albany avenue have petitioned Council for brick paving.

East St. Louis, Ill.—Council has adopted street improvement bills as follows: Third street, from Missouri to St. Clair; St. Louis, from Third to Collinsville; Summit avenue, from Third street, west, 155 feet; Illinois avenue, from Third to Collinsville; Fifteenth street, from St. Clair avenue to the city limits, and Twenty-fourth street, from Belleville to Illinois avenue.

New Albany, Ky.—The Board of Public Works has authorized the improvement of New Albany street, a distance of about ten blocks; vitrified brick on a foundation of Portland cement and broken stone will be used for this improvement.

Davenport, Ia.—The residents of West Sixth street have petitioned for paving.

New Orleans, La.—Specifications for paving twenty-one streets have been prepared; Council will arrange to let the contract in the near future.

Plans and specifications have also been prepared for the paving of Opelousas avenue, in Algiers, for which bitulithic has been asked; and plans are ready for paving of sidewalks and installation of gutters and curbing in Broadway, from St. Charles street to Leake avenue.—W. J. Hardee, City Engineer.

Grand Rapids, Mich.—The Mayor, Comptroller and City Clerk have been authorized to issue \$153,000 4½ per cent. semi-annual bonds for paving, grading and graveling the streets and avenues of the city for the fiscal year ending May, 1908.—L. W. Anderson, City Engineer.

Jersey City, N. J.—Bids will be advertised for the purchase of \$15,000 5 per cent. Bulls-Ferry road improvement bonds; no bid below par will be accepted.

Elizabeth City, N. C.—Bonds in the sum of \$50,000 will be issued for paving.

Akron, O.—The paving of about 1,800 feet of North Hill with Medina block is being considered; estimated cost, \$28,000.—John Payne, City Engineer.

Ashland, O.—Council will probably grant the petition of property owners for paving West Eighth street with brick, curbing to be used on a portion only; North Cottage street will likewise be improved.

Cincinnati, O.—Legislation is being considered for surfacing roadway of Probasco street, from Marshall to Clifton avenue, with macadam; also for improving Bryant avenue, from Middleton to Whitfield, with macadam; Freeland avenue, from Grandin road to Woodland avenue; South Auburn avenue, from Sycamore avenue to south line of Henry Morse's subdivision; Woodland avenue, from Torrence avenue to Breen street; plans and estimates have been ordered for a street 60 feet in width in the ravine west of Torrence road, from Eastern avenue to Grandin road; ordinance has passed transferring \$5,000 to the asphalt repair fund.

A memorial from the Northside Business Club is being considered by Council, urging the elimination of the B. & O. S. W. crossing at Hopple street by the construction of a viaduct; estimates of the cost of the construction were received from the Chief Engineer, as follows: For labor and material, \$359,539.45; of this sum the B. & O. S. W. will have to pay \$119,846.45; the city, \$239,692.97; in addition, the property that will have to be condemned is valued at \$89,000; this charge is divided: B. & O. S. W., \$39,000; city, \$50,000.

Delaware, O.—The Commercial Club is preparing a general plan for paving next year;

the committee is acting with John Shoemaker, a member of the Council, and will look up the general question of cost of material and the improvements which seem to be necessary.

Kent, O.—Bids will be opened, October 31, for \$15,000 5 per cent. street improvement bonds.—T. A. McMahon, Village Clerk.

Lakewood, O.—Bids will be received, October 25, for \$3,390 and \$1,145 street improvement bonds, and \$10,160 and \$1,657 special assessment bonds.—B. M. Cook, City Clerk.

Middletown, O.—Bids will be opened, October 25, for \$1,864.50 4 per cent. semi-annual street improvement bonds.—G. N. Oglesby, City Auditor.

Richwood, O.—Bids will be opened, November 9, for \$8,000 4½ per cent. semi-annual bonds for improving Franklin avenue.—R. L. Jordan, Village Clerk.

Springfield, O.—Council is arranging to construct cement sidewalks on certain portions of Shaeffer street.

Toledo, O.—Council has decided to submit the \$150,000 bond issue for boulevard improvements to a vote of the people, at the coming election.

Urbana, O.—Council is mapping out a very elaborate plan for the improvement of sidewalks and gutters throughout the entire city; the material has not been definitely determined as yet.

Ulrichsville, O.—Council of the village of Dennison has taken preliminary steps for the paving of the west end of center street, the cost of which will be in the neighborhood of \$2,000, bids on which are to be immediately invited.

Zanesville, O.—The residents of Frazesburg road have asked the Commissioners for an appropriation for paving one of the county roads next season; the petition is likely to be granted.

Altoona, Pa.—The Board of Public Works will shortly award contracts for paving sixty-one streets, avenues and alleys; estimated cost, \$300,000.—S. H. Walker, Mayor; G. W. Knebler, President, Board of Public Works.

Pittsburg, Pa.—An ordinance has been passed to widen Cecil place to a 50-foot street.

West York, Pa.—Borough Council has passed an ordinance creating a loan of \$4,000 for street improvements and the payment of damages arising from the opening of new streets.

Providence, R. I.—The special committee on the East Side highway has directed the City Solicitor to apply to the General Assembly for authority on the part of Council to permit the Rhode Island Company to build a tunnel under Prospect Hill.

Brownsville, Tex.—Council is preparing to boulevard certain streets.

Fort Worth, Tex.—The laying of vitrified brick paving on a number of streets is contemplated; bids will be asked on all kinds of modern street paving.—H. M. Dickson, City Engineer.

Morgantown, W. Va.—Council has decided on the list of streets to be paved and sewered during the coming year; about \$9,000 will be used.

SEWERAGE

Macon, Ga.—City Engineer Wilcox has asked for an appropriation with which to buy apparatus to clean the sewers.

Malden, Mass.—Council has appropriated \$5,000 for sewers.

Taunton, Mass.—The Sewer Commissioners have voted to ask the City Council for an appropriation of \$3,000 for the completion of the sewer main on West Water street.

Grand Rapids, Mich.—Council has directed plans to be prepared for trunk sewer for the East Side.

Bonds, \$9,000 will be issued for the construction of sewers during fiscal year ending May, 1908.—L. W. Anderson, City Engineer.

Lansing, Mich.—The city has been authorized to borrow money to defray the ex-

penses of constructing sewers in Bradley, Barnes, Smith and Sparrow avenues, aggregating \$12,700.

Riverside, N. J.—Bids will be opened, October 31, for \$80,000 4½ per cent. semi-annual bonds for the construction of a sewer system.—Henry Taubel, Chairman, Township Committee.

Lancaster, N. Y.—The Village Board has decided to build a sewage disposal plant; estimated cost, \$20,000.

Fremont, O.—The Engineer is preparing plans for the Hickory street sewer, and as soon as completed its construction is to be advertised.

Mingo, O.—Council has decided that the trunk sewer shall be built of brick; Daniel Boyle is the low bidder for its construction, cost \$42,000.

Upper Sandusky, O.—Council has recommended a number of changes in the plans and specifications for the system of sewers which were prepared by Engineers Riggs and Sherman, of Toledo; City Engineer Jacob Greek has the modified plans on file.

Newcastle, Pa.—Bids will be received, October 28, for the purchase of \$35,000 4½ per cent. 10 to 20-year sewer bonds.—A. B. Rhodes, City Clerk.

St. Clair, Pa.—It is proposed to construct 18, 24 and 30-inch pipe sewers on First and Third streets, to cost \$8,000.—W. H. Wright, Engineer; H. W. Brown, Town Clerk.

Beeville, Tex.—A 24-inch sewer is to be constructed on Washington street, the citizens to pay half the cost, and the County Commissioners the other half.

WATER SUPPLY

Lake Port, Cal.—The citizens have voted \$15,000 bonds for the extension of water mains.—Address City Clerk.

Pasadena, Cal.—A resolution has been adopted that a committee consisting of the Mayor, Councilman Hotelling and Councilman Webster be appointed to confer with all the water companies of Pasadena, and secure from them prices and terms on which they will sell to the city of Pasadena all their holdings, both real estate and personal, of whatever name and nature.

Yuba City, Cal.—Chas. Andross, proprietor of the Yuba City Water Works, is preparing to erect a steel water tower and tank.

Madison, Ga.—Madison has voted in favor of the issuance of \$50,000 bonds for water works, sewerage and improvement of the electric light system.

Pauls Valley, I. T.—The citizens have voted \$45,000 bonds for water works.—Address City Clerk.

Churvan, Ia.—Bonds, \$10,000, have been voted for water works.

Bellevue, Ky.—The question of issuing \$57,000 bonds for water supply will be submitted to a vote of the people.—Address City Clerk.

St. Bernard, La.—The Police Jury is preparing to extend the water mains in many streets.—General Albert Estopital, President of the Board.

Three River Falls, Minn.—The question of issuing \$12,000 bonds for water system will be submitted to the voters, November 6.

Kearney, Neb.—The City Engineer has completed plans for proposed water system, estimated to cost \$100,000; the matter of issuing bonds for the purpose will be submitted to a vote of the people.—Geo. E. Ford, City Clerk.

Hildreth, Neb.—Bids will be received, November 25, for the purchase of \$10,000 6 per cent. water works bonds.—A. L. Beck, Village Clerk.

Wahoo, Neb.—A special election will be held to vote on the question of issuing bonds for establishing water system.—Address City Clerk.

Hoboken, N. J.—To enable the sinking of piles to support the proposed viaduct from the hill through a portion of Fourteenth street, the Water Commissioners will shift the 12 and 6-inch water main that supplies that section of the city with water.

Paulsboro, N. J.—The Water Company has agreed to sell all its rights, title and interests to the borough for \$51,217.28, and the proffer will be accepted.

Bellevue, Ky.—Council has decided on a bond issue to be voted on in November for the purpose of constructing a water works system; City Engineer Glazier has prepared three plans, the most expensive of which is \$57,000; it is, however, estimated unofficially that the system will cost in the neighborhood of \$100,000.

Cambridge, O.—A bond issue is to be voted on in November, and the proceeds are to be used for enlarging the water works.—W. N. Bradford, Mayor.

Cincinnati, O.—The city will expend \$1,800 to clean the water mains in Grand avenue and Shadwell street.

Cleveland, O.—E. C. Vermillion, who is an applicant for a water works franchise at Salem, O., states that the Council will take final action shortly; Mr. Vermillion has offices in the Citizens' Building, this city.

An ordinance has been passed authorizing an expenditure of \$10,000 for brick for the Water Department.

Dayton, O.—The water supply on the West Side is insufficient.—Robert E. Kline, City Engineer.

Ironton, O.—Council has authorized the issue of \$20,000 additional bonds for further improvements to the water works plant.

Leesburg, O.—Resolution has passed the Council for a bond issue of \$4,000 for erecting a system of water works.—C. B. Cox, Village Clerk.

Massillon, O.—The question of a bond issue is to be voted on at the November election, and the proceeds therefrom are to be applied to the purchase of the water works system of the Massillon Water Company.—C. L. Frantz, Mayor.

Springfield, O.—The Board of Public Service has been directed to extend the water mains in several directions.—W. H. Sieverling, City Engineer.

Gregory, S. D.—Citizens have voted to build a \$12,000 water works system; the specifications call for a large cement reservoir 40 feet in diameter to be built upon the top of Gregory butte, which is about 100 feet above the general level of the city.

Hurley, S. D.—The matter of establishing a water system is under consideration.

Amarillo, Tex.—Council proposes to issue \$95,000 bonds to purchase the water works plant owned by a private company; improvements will be necessary.—Address City Clerk.

Crockett, Tex.—The matter of issuing bonds for a water system is under consideration.

Greenville, Tex.—D. F. Horton, of Dallas, has been directed to make an appraisal of the water works system; improvements on the plant are necessary.

Palestine, Tex.—Col. Tom Cronin, who purchased the water works plant a few days ago, proposes to improve the system and extend the water mains.

Raymond, Wash.—A \$100,000 municipal water system is being considered. The water will come from a mountain stream and the intake will be eight miles from the city. A dam thrown across a canyon 60 feet wide will form a reservoir at the intake. The walls of the canyon are solid basaltic rock, making the engineering problem very simple. The base of the dam will be 250 feet above the level of the city. The water will be piped, or flumed, to a reservoir site near town.—John D. Henry, City Engineer.

Tacoma, Wash.—The Los Angeles Well Drilling Company has an offer before Council to perforate one of the wells at South Tacoma, stipulating that the city pay \$20 for each additional 1,000 gallons per hour of any increase that the company may be able to show in the flow of production of each well. The company desires to take the recent official test as a minimum from which to calculate the increase, and that it be allowed to raise the water as it sees fit to a reasonable height, and that measurements be made in the same manner that they were made at the official test of the wells. If no results are obtained the city will be put to no expense for the trial. If results are secured the company wants a contract for the ten wells.

Neanah, Wis.—Bids will be received, November 5, for the purchase of \$20,000 water works bonds.—J. L. Keating, City Clerk.

Sheboygan, Wis.—Council has been directed to advertise for bids for the purchase of \$360,000 bonds, authorized for the purchase of water plant.—John M. Steimle, City Clerk.

Thermopolis, Wyo.—Bids will be received, November 18, for the purchase of \$50,000 water system bonds, payable in twenty years; interest, 6 per cent.—F. G. Hank, Town Clerk.

Montreal, Can.—Bids will be asked for new boilers, a boiler house, and chimney for the water works.

Vonda, Sask., Can.—The question of issuing \$15,000 water works bonds will be submitted to a vote of the people.

LIGHTING AND ELECTRICITY

Jackson, Ala.—The Jackson Light & Power Company, has been incorporated with a capital stock of \$16,000, with the privilege of increasing to \$20,000; the company will purchase and enlarge present electric plant, furnish power for the proposed new system of water works and for three or four gravel pits near the city, etc.—B. H. Warren, President.

Camden, Ark.—The Ice & Light Company has been organized with a capital stock of \$25,000, by R. L. Moore, Jas. G. Brown, and others.

Magnolia, Ark.—The Magnolia Ice & Light Company was organized with a capital of \$25,000.—R. Moore, President.

Eureka, Cal.—The North Mountain Power Company has bid for lighting the streets, \$2.25 for each of the 173 arc lights maintained by the city; its present price being \$2.40; the bid of the Eureka Lighting Company was \$4.35 per light.

Eaton, Col.—W. A. Farr, Roscoe Farr, and others, have incorporated the Eaton Electrical Company, with a capital of \$25,000; it will furnish heat, light and power for Eaton.

Farmersburg, Ind.—The Farr Electric Company has been incorporated with a capital of \$20,000, by Arthur D. Farr and others.

Washington, Ind.—The citizens have voted to reject the proposition to have the municipal electric plant placed in working order.

Silver City, Ia.—An election is proposed to vote on the question of issuing \$4,000 bonds for a municipal electric light plant.

Midway, Ky.—The special committee recently appointed by Council to take up the matter of electric lights for Midway with the manager of the light plant at Versailles, has arranged the details.

Ann Arbor, Mich.—A special election has been called to decide whether the village of Manchester shall purchase a plant and operate its own electric lighting plant.

Hibbing, Minn.—The village will extend the electric light wires to Penobscot location, a mile west.

Plattsburgh, Neb.—Earl C. Westcott, was granted a franchise to operate an electric light plant.

St. Paul, Neb.—Bids will be received October 26, for the purchase of \$18,000 5 per cent. electric light bonds.—W. S. Jackson, Village Clerk.

Stanton, Neb.—Bonds, \$5,500, will be offered for sale October 28, for establishing an electric light plant.—W. T. McFarland, City Clerk.

Atlantic City, N. J.—It is proposed to expend about \$30,000 for ornamental light posts to be placed along Atlantic avenue. Arc lamps will be thirteen feet above the sidewalk.—J. W. Hackney, City Engineer.

Paulsboro, N. J.—Contract has been awarded to Frank D. Moses, of Trenton, for the installation of a gas plant at his bid, \$28,000.

Woodbury, N. J.—Council has passed over Mayor Ladd's veto the ordinance for the purchase of land and the erection of an electric light plant for the city, and now Council will proceed and install its own plant to light the city.

Cincinnati, O.—The Board of Public Service has been authorized to enter into a contract for the purchase of "natural gas burners," for \$1,300.

Lima, O.—M. S. Bowser, Chairman of the Lighting Committee of Council has recommended the construction of a municipal lighting plant, if the cost of lighting is not reduced by the present company.

Aberdeen, S. D.—Council has passed the electric light and power ordinance and a franchise will be granted the Lake Andes, Wagner & Armour Traction Company, to run twenty-five years, permitting the erection of a plant and operation of a local service; the city reserves the right to purchase the plant at the end of ten years or at the end of any five-year period after that time.

Nashville, Tenn.—The Rock City Electric Company has been incorporated with a capital stock of \$10,000, by John A. Bell, Louis Leftwich, Hamilton Rark, and a number of others.

Newport, Tenn.—The city has voted \$50,000 bonds for constructing an electric light plant, water works, and sewer system.—Address Mayor.

Beaumont, Tex.—The Directors of the Beaumont Ice, Light and Refrigerator Company have decided to increase the capital stock for the purpose of enlarging the plant.

Beeville, Tex.—E. J. Kinker proposes to install a lighting plant for lighting operations; 1,000 lights will be furnished, and machinery will be purchased.

Herndon, Va.—A company has been organized for the purpose of lighting the business and dwelling houses by means of acetylene gas; those forming the company are Dr. E. L. Detwiler, A. T. Walker, E. N. Walker, Dr. E. L. Robey, and F. W. Huddleston.

Ashland, Wis.—The proposition of the Chippewa Valley Construction Company has been accepted to transmit 6,000 horsepower from Cooper Falls for the municipal lighting plant, beginning next June; the city to lease the power plant for three years with the option of purchase at that time.

Madison, Wis.—The Street and Lighting Committee has been instructed to investigate the matter of lighting the streets with incandescent lamps.—John Corscot, Superintendent of Lighting Plant.

Waterloo, Wis.—The city has voted \$10,000 bonds for purchasing electric plant and improving the same.

Winnipeg, Man., Can.—Council is considering the matter of establishing a power plant at Point du Boisé, to furnish light and power for the city.

FIRE EQUIPMENT

Wylam, Ala.—The Fire Company is arranging to purchase fire apparatus.

San Jose, Cal.—The Fire Commissioners have directed plans to be prepared for two additional fire houses.—George L. Tonkins, Fire Chief.

Leroy, Ill.—Council is preparing to build a fire engine house.—Address City Clerk.

National City, Ill.—Arrangements have been made between the National Stock Yards Company by which the city of East St. Louis is to erect and maintain a fire engine house and company here; the Stockyards Company pays one-half of the original cost of \$26,000, and the balance of the expense of the erection and maintenance of the building and equipment and payment of the company, which will be about \$15,000 a year, is to be borne by East St. Louis; the contract stands for twenty-five years.

Evansville, Ind.—Council is arranging to build a hose house at Fulton avenue and Main street.

Clinton, Ia.—Council has accepted plans for a hose house to be erected at a cost of \$7,000.—Thomas Price, Chief, Fire Department.

Owosso, Mich.—Council is preparing to improve the fire protection.

Mapleton, Minn.—The Fire Chief recommends the purchase of additional hose.

Springfield, Mo.—Council has directed plans to be prepared for the improving of a fire station.—O. M. Owens, Chairman.

Omaha, Neb.—The question of issuing \$30,000 bonds for constructing engine house will be submitted to a vote of the people.—Address City Clerk.

Passaic, N. J.—Borough Electrician Walter M. Petty has recommended the erection of three bell towers for fire alarms; estimated cost, \$1,500 each.

Newburgh, N. Y.—The city authorities contemplate overhauling the whole fire alarm system, placing the wires underground in the more populated parts of the city, and stringing free wires in the outlying parts.

Minot, N. D.—Council has decided to purchase 1,000 feet of hose.—Address City Clerk.

Norwalk, O.—Council is preparing to purchase a patrol wagon.

Racine, Wis.—Bids will be advertised for the erection of the new central fire station at Fourth and Wisconsin streets.—P. H. Connolly, City Engineer.

PUBLIC BUILDINGS

Berkeley, Cal.—Final plans have not yet been adopted for the erection of a Town Hall.—J. V. Mendenhall, City Clerk.

Los Angeles, Cal.—A. H. Puttcamp, Severance Building, has been engaged to prepare plans for a three-story brick and concrete hospital, to be erected for the West End Hospital Association, at 1437 West Twenty-fifth street, at a cost of about \$18,000.

San Jose, Cal.—The Board of Police and Fire Commissioners has approved the plans of Wolfe & McKenzie, 63 West Santa Clara street, for the Market street fire house, which is to be two stories high, of reinforced concrete, 80x60 feet, and to cost about \$27,000; also plans for the Third street fire house, which were prepared by Wm. Binder, Auzeais Building, and provide for a two-story building of reinforced concrete and steel frame, 45x40 feet, and cost about \$16,000; bids for the construction, it is stated, will be asked soon. The Board will ask competitive plans on two other fire houses which it is proposed erecting.

Edwardsville, Ill.—The Madison County Board has called an election to be held, November 5, to vote on the question of \$150,000 bonds for the erection of Court House.—Address County Auditor.

Elgin, Ill.—Council has been directed to advertise for bids for the purchase of school bonds recently authorized.—Address Clerk of the Board.

Elizabeth City, N. C.—A \$40,000 Market Building is to be erected.

Baunbridge, O.—An election will be held in November to vote on the question of issuing \$12,000 bonds for constructing Town Hall.—Address City Clerk.

Hamilton, O.—Bids will be received, November 1, for the purchase of \$23,000 4 per cent. school bonds.—John A. Keller, Clerk.

Harrisburg, Pa.—The Municipal Hall Committee has reported unanimously in favor of accepting E. J. Stackpole's proposition to build an office building adapted to the city's needs on the old Shakespeare Hall property in Federal Square and lease it to the city; the rental is to be \$18,000 a year; an ordinance has been introduced in Council authorizing the lease.

Woodruff, S. C.—Bids will be received, November 1, for the purchase of \$15,000 6 per cent. twenty-year school bonds.—E. T. Pearson, Chairman.

Knoxville, Tenn.—An ordinance is before Council authorizing issue of \$40,000 bonds for building stable.—Address City Clerk.

Glenwood, Tex.—An election will be held to decide the question of issuing \$14,000 bonds for the construction of school house.—Address Clerk of the Board.

Groesbeck, Tex.—The Attorney General has approved issue of bonds for school purposes.—Address Clerk of the Board.

Haskell, Tex.—The Attorney General has approved issue of \$10,000 5 per cent 40-year school bonds.—Address Clerk of the Board.

STREET RAILWAYS

Waycross, Ga.—Application for a charter for a street railway has been made, the capital being \$300,000; the company will put down at least fifty miles of track and will operate extensively in Waycross and vicinity; a line in Blackshear and one to Waresboro will be added; the petitioners include a number of Waycross citizens and several outside capitalists.

Bloomington, Ill.—At a meeting of the stockholders the deal by which the Fisher Syndicate of Joliet assumes control of the Bloomington, Pontiac and Joliet Electric Railway was approved and the formal transfer voted; H. A. Fisher was elected President, John K. Newhall, Secretary; L. D. Fisher, General Manager and Director; the capital stock will be increased to \$2,500,000 and the extensions to Bloomington and Joliet will be pushed.

Chicago, Ill.—The Western Illinois Electric Company has been incorporated with a capital stock of \$100,000, for the purpose of building electric line through Cook County to Aurora.—M. M. Miller and Edw. J. Schmidt, Incorporators.

Evansville, Ind.—The Evansville & Southern Indiana Traction Company contemplates constructing a new street car line in the eastern part of the city.

Leavenworth, Kan.—The Kansas City Western Railway Company is considering the project of extending the line to St. Joseph.

Louisville, Ky.—The Louisville Railway Company will erect a one-story steel concrete sub-station, steam heat, etc.; estimated to cost about \$12,000; plans were prepared by X. D. Murphy & Bro., 250 Fifth street.

Owingsville, Ky.—The Kauffman Shaw Construction Company, of Dayton, O., has offered to build, equip, and operate an electric railway from Salt Lick, by way of Owingsville and Sharpsburg, to Carlisle, Ky., a distance of thirty-four miles.

Alexandria, La.—The Kent Company, Ltd., has been incorporated with a capital stock of \$100,000, for the purpose of building an electric road.—A. Albert, President.

Traverse City, Mich.—The Grand Traverse Railway Company, has been incorporated with a capital of \$400,000 for the purpose of constructing an electric road to Elk Rapids.

Mt. Vernon, N. Y.—The Mt. Vernon & Eastern Railway Company, has been incorporated with a capital stock of \$1,000,000 for the purpose of building an electric road.—Oakleigh Thorne, 135 Broadway, and Charleston D. Bunce, 135 Broadway, Incorporators.

Portland, Ore.—The Oregon Electric Railway Company will push its construction south to Albany and Eugene, and for the entire distance a first-class railroad will be built, regardless of expense.

Pittsburg, Pa.—The franchise ordinance of the Pittsburg Subway Company has passed Select Council and been messaged to the Common branch.

Aberdeen, S. D.—Plans are on foot to construct an interurban railway system with this city as headquarters, which will care for the rural traffic, both freight and passenger; the capital necessary to launch this enterprise is ready and it is understood that a syndicate has been organized to carry it out; all that is needed is a franchise from the City Council granting permission to use certain streets and alleys on which the cars may be operated.—Address C. J. Mezel.

Memphis, Tenn.—The Clarksdale, Covington and Collierville Interurban Company has

been granted by the County Court a fifty-year franchise over roads, pikes, and private property of Shelby County.

Janesville, Wis.—An interurban company contemplates applying to the State Railway Commission for permission to build and operate a road between this place and Madison; Thomas Jacks, of Titus, Tenn., and H. H. Ziegler, of Columbus, O., are interested.

Racine, Wis.—The Milwaukee Electric Railway and Light Company has applied for a franchise to build a car line on Second street, east of Main street, so that the plant of the Racine Gas Light Company, in which Mr. Beggs is a principal stockholder, can be reached with freight.

BRIDGES

Pittsburg, Kan.—The County Commissioners have decided to make an appropriation for seven new county bridges to be built during the coming year, the appropriation for the same being \$3,621.

Port Huron, Mich.—City Attorney Walsh says that the Grand Trunk Railway will probably build a new overhead bridge on Military street and that the suit begun in the Circuit Court may be dropped.

Rochester, N. Y.—The town of Brighton is to hold a special election to vote upon the proposed bridge over the New York Central tracks, at the extension of Clover street; the bridge, according to an estimate by County Engineer McClintock, will cost in the neighborhood of \$21,000, and will be of steel, cement and concrete.

Guthrie, Okla.—The County Commissioners will advertise for bids for the erection of stone abutments for two bridges in South Cimarron Township.

Richmond, Tex.—The County Commissioners Court has located the \$10,000 steel bridge to be erected jointly across the Bernard river by Fort Bend and Wharton Counties, at the old Schley crossing; both counties have voted the necessary bonds to defray the expense of construction, and the bridge will soon be erected.

Spokane, Wash.—The Board of Public Works has recommended to Council that the East Olive street bridge be rebuilt at once, the cost being \$30,000; a combination truss bridge to utilize the present piers and abutments is desired; the County and the Spokane Traction Company have each agreed to pay a third of the cost.

The Commissioners of Spokane County met with W. M. Manning, Engineer of Stevens County, and Allen R. Scott, Engineer of Spokane County, and decided to rebuild the Le Pray bridge, twenty miles north of here; work will begin as soon as plans can be prepared and bids advertised for; plans will be submitted for an all steel, a combination, and a wooden bridge to cost \$30,000.

Milwaukee, Wis.—An ordinance is before Council authorizing an issue of \$250,000 viaduct bonds.—Address City Comptroller.

MISCELLANEOUS

New Haven, Conn.—The Board of Health has asked Council for an appropriation of about \$500 to be used in the investigation of crematory and reduction garbage plants, as well as the general garbage plant in the municipalities it is proposed to visit.

Washington, D. C.—An American Consular officer in South America reports that information as to steam traction engines is wanted by the country in question; full information as to their advantages, as to their adaptability to good cultivation in clay lands, the amount of work they will do in a day, the expense of operating them, the price f. o. b. port of the country in question, and all reliable details are desired.—Address No. 1530, Bureau of Manufacturers.

Covington, Ga.—Bonds in the sum of \$55,000 have been voted to erect and equip a system of water works and sewerage, and \$5,000 to erect an annex to the public school building.

Madison, Ga.—Bonds, \$50,000, have been voted for the improving of water, light, heat, power, and sewerage systems.

Tifton, Ga.—The citizens have authorized an issue of \$30,000 water works and sewer bonds.—Address City Clerk.

Grand Rapids, Mich.—The Board of Public Works estimates the cost of excavating for and constructing a concrete dock wall along the west dock line of Grand river, from Fourth to Eleventh streets, at \$54,550.—Samuel A. Freshney, Secretary and General Manager.

Wood River, Neb.—Bonds, \$28,000, have been authorized for the construction of light and water plant.—Address City Clerk.

South Orange, N. J.—It has been decided that South Orange will cooperate with the other Oranges and Montclair in solving the garbage disposal question.

Rutherfordton, N. C.—The election held to authorize an issue of \$25,000 light and water bonds, failed to carry.

Cellna, O.—The Commissioners expect to build a hospital and install a heating plant and water tower, at the County Infirmary, at a cost of \$35,000; a bond issue will be voted on for this purpose next month.

Cincinnati, O.—Ordinance has passed authorizing expenditure of \$81,000 to acquire property bounded by Clifton and Ludlow avenues and the Burnet Woods Park, as part of the park.

Kent, O.—Bids will be received, October 31, for the purchase of \$15,000 improvement bonds.—Address City Clerk.

Lewisburg, O.—The people of this town will vote in November on a bond issue for electric lighting and water works plant, and for the construction of a new school house.

Marion, O.—Council has passed ordinance for bond sale of \$3,000, the proceeds to be applied to paving and sewers.

Morgantown, W. Va.—City Engineer Des Moines Utt is preparing plans for the paving of a large number of streets and for the construction of sewers under practically every street in town which is not paved.

Feackville, Pa.—Bonds, \$12,000, have been authorized by vote for improvement purposes.—Address City Clerk.

Harrisburg, Pa.—An ordinance has been introduced providing for the purchase or acquiring in other manner the land needed for the completion of the city's parkway.

Wilkes-Barre, Pa.—An ordinance has been introduced providing for the sprinkling and cleaning of the streets by the city under contract.

Newport, Tenn.—The city has voted \$50,000 bonds for constructing an electric light plant, water system and sewer system.

Spokane, Wash.—Council will at once advertise for the purchase of \$100,000 park bonds; interest 5 per cent.—Address City Clerk.

Electors in the outskirts of Spokane will vote, November 4, on a proposition of extending the city limits one and a half miles north and one mile east and south, with an estimated population of 5,000; this will mean paving, sewer and water works extension.

Madison, Wis.—Tenth Ward has been created a park district, and Burr W. Jones has deeded eight lots on University Heights to the city for playground purposes.

BIDS RECEIVED

Los Angeles, Cal.—Bids have been received for furnishing cement making machinery, in accordance with Specifications No. 6. Thomas Prosser & Son proposed: Schedule C, Items 19 and 34—eight tube mills, "Krupp Patent," f. o. b. Trenton, N. J., except friction clutch pulleys, which are f. o. b. Chicago, Ill., \$19,800; Schedule C, Items 14 and 34—Six ball mills, "Krupp Patent," f. o. b. San Francisco, Cal., except friction clutch pulleys, which are f. o. b. Chicago, Ill., \$26,640; additional mills, ball mills, each, \$4,440; additional mills, tube mills, each, \$2,475; additional countershafting for ball mill, \$4.80 per lineal foot; additional ball mill countershaft bearing complete with grease cup and base plate, each \$43.75; additional tube mill countershafting, \$3.25 per lineal foot; additional tube mill countershaft bearing complete with base plate, each \$26.50. Power and Mining Machinery Company proposed: f. o. b. Cudahy, Wis., Schedule A.—Item 1, rock crusher; Item 2, rock chute and feeding device; Item 4, clay chute and feeding device; total price, \$2,963.60; weight, 53,200 lbs. Schedule B.—Item 5, two rotary dryers; Item 22, three kiln feeding devices; Item 23, three 100-foot kilns; Item 23-a, alternative, three 125-foot kilns; Item 27, three rotary coolers; total price, excluding Item 23-a, \$39,048; total price, excluding Item 23, \$40,948; total weight, excluding Item 23-a, 737,100 lbs.; total weight, excluding Item 23, 791,100 lbs. Schedule C.—Items 14 and 34, four ball tube mills; Items 19 and 34, eight tube mills; total price, \$38,630; weight, 477,000 lbs. Vulcan Iron Works proposed: f. o. b. Wilkes-Barre, Pa., Schedule B.—Item 5, two rotary dryers (see detail specifications), \$4,960; Item 22, three kiln feeding devices (see detail specifications), \$1,125; Item 23, three 100-foot kilns (see detail specifications), \$23,850; Item 27, three rotary coolers (see our specifications), \$4,350; total price, excluding Item 23-a, \$34,285; Item 23-a, alternative, three 125-foot kilns; alternate, bid No. 1, \$25,950; alternate, bid No. 2, \$22,200; alternate, bid No. 3, \$20,625; alternate, bid No. 4, \$25,350; alternate bid No. 5, \$23,700. Allis Chalmers Company proposed: f. o. b. Scranton, Pa., Chicago, Ill., and Bucyrus, Ohio, Schedule A, \$3,667; Schedule A, alternate bid, \$3,928; Schedule B, excluding Items 23 and 23-a, \$38,516; Schedule B, alternate bids, \$36,166; \$38,756; \$36,241; Schedule C, \$47,653; Schedule J, \$2,853. H. W. Caldwell & Son Company proposed: f. o. b. Chicago, Ill., Schedules D and E, excluding Item 29-a, \$26,315.50.

Los Angeles, Cal.—Bids have been received for furnishing hydraulic and electrical machinery, apparatus and material for the pro-

posed Cottonwood creek hydro-electric plant, in accordance with Specifications No. 14. J. N. Kelman proposed: f. o. b. Los Angeles, Cal. Item 4, one 30,000-volt oil switch, \$285. Westinghouse Electric & Manufacturing Company proposed: f. o. b. East Pittsburg, Pa. Item 2, one three-phase electric generator, four step-up transformers, and fifteen step-down transformers, \$18,039; Items 3 and 4, switchboard apparatus, one 30,000-volt oil switch, \$580; Item 5, one set of lightning arresters, \$528. California Electric Company proposed: Item 3, switchboard apparatus, f. o. b. Hawthorne, Ill., \$230; Item 6, insulators and line material, f. o. b. East Liverpool, O., and Brooklyn, N. Y., and Los Angeles, Cal., \$8,369; 750 cedar poles, f. o. b. San Pedro, Cal. (alternate bid), each \$6.30. The Pelton Water Wheel Company proposed: f. o. b. San Francisco, Cal. Item 1, one tangential water wheel—(a) with oil pressure governor, \$5,760; (b) with mechanical governor, \$5,590. Crocker-Wheeler Company proposed: f. o. b. Ampere, N. J. Item 2, one three-phase electric generator, four step-up transformers, and fifteen step-down transformers, \$17,400. John A. Roebbling's Sons Company proposed: f. o. b. Lima, N. Y., and Los Angeles, Cal. Item 6, Insulator and line material, \$8,676.28. California Pole and Piling Company proposed: Item 7, round cedar poles, \$21,000. Pierson, Roeding & Company proposed: Item 6, insulators and line material, f. o. b. Victor, N. Y., New York, N. Y., San Francisco, Cal., and Benecia, Cal., \$7,421.72. B. F. Kierulff, Jr., & Company proposed: Item 4, one 30,000-volt oil switch (modifications as noted in Contractor's specifications, \$115 (f. o. b. factory); or, "if our regular cable control is substituted for the connecting levers and shafting," \$102; Item 5, one set of lightning arresters (modifications as noted in Contractor's specifications), \$207 (f. o. b. New York); Item 6, insulators and line material (as noted in Contractor's specifications), \$2,497.40 (f. o. b. Los Angeles, Cal.); Item 7, round cedar poles, f. o. b. Redondo, Cal. (as noted in Contractor's specifications), \$17,500.

Oakland, Cal.—Contracts for grading, curbing, and macadamizing Center street and Third street, have been awarded Hutchinson Company; Stanford, Eleth, Ayala avenues and West and Howard streets, to Blake & Bilger Company.

Contracts for sewerage Cameron, Nineteenth and Duncan streets and Shafter avenue, have been awarded Michael Murphy; sewerage Thirteenth avenue, to Louis Lima Company.

San Francisco, Cal.—The Fire Commissioners have awarded the contracts for three new engines to the American La France Company, two of No. 2 class, for \$6,850 each, and one of No. 3, for \$6,207. The Seagrave Company, of Cincinnati, O., was given the contract for a hose ladder and truck, for \$3,775; and Paul Brand, of the Robinson Fire Apparatus Manufacturing Company, the contracts for four combination hose and chemical wagons, at \$1,975 each.

The Bay View school contract has been awarded to Childs, Arlett & Company, for \$98,804. The construction of the sewer pumping station, at Fourth and Berry streets, has been given to Williams & Belser, \$1,489; and of the one on Commercial street to J. A. Dowling, at \$1,260. The repair and macadamizing of portions of San Bruno avenue and Railroad avenue, for which \$8,000 has been set aside, has been given to Peter McHugh, who will be paid 62.5 cents for each cubic yard of rock spread upon the roadways. While the bids for repaving parts of Fourth, Howard and Harrison streets have been opened, the awards were postponed to allow for computation. All bids for the repair of street paving in District Three—that north of Market and east of Polk streets—have been rejected.

Wilmington, Del.—Contract for municipal paving plant has been awarded Warren Brothers, of Boston, Mass.; cost, \$14,900.

Washington, D. C.—Lyons Bros., of Brookland, D. C., has been awarded contract for the construction of a machine shop building at the Washington filtration plant, at their bid of \$3,095.

Jacksonville, Fla.—Two bids for contracts to be awarded by the Government have been received for dredging and improvements at Orange Mill flats. The lower bid was that of P. Sanford Ross, who offered to undertake the work at the rate of 12 cents per cubic yard. On the contract for contemplated improvements in and near the mouth of the Withlacoochee river three bids were submitted, the lowest being that of the Southern Dredging Company, of Mobile, Ala. Under this contract there are two classes of dredging to be done, one through rock, and one through soft material. The Southern Dredging Company's bid was nineteen and one-half cents per cubic yard of the softer material, and \$3.37 for the work through the rock.

Palatka, Fla.—Contract to construct the highway bridge across the St. Johns river at Palatka has been awarded to the Converse Bridge Company, of Chattanooga,

Tenn.; there were three bidders, the bids being \$54,000, \$60,000, and \$61,000, respectively.

Chicago, Ill.—The Navy Department has awarded to the Edwards Brothers Dredging Company, of Salt Ste. Marie, a contract for removing about 33,000 cubic yards of earth at the Chicago naval training station, at 81 cents per cubic yard.

East Moline, Ill.—Council has taken up the matter of water works and decided to purchase land at a reasonable figure; the one offering a suitable site at the lowest price will sell the city the water works site.

Louisville, Ky.—Three bids were received for the construction of a new police station at Eighteenth street and Garland avenue; the building will cost \$10,415.50, and the work of construction will begin as soon as the contract has been awarded; the bidders are George Seadler, who bid on the building; Simon Schulhafer, who bid on the plumbing, and F. A. Clegg & Co., on the hot water apparatus.

Malden, Mass.—Mellish & Byfield Company has been awarded contract for furnishing the chemical laboratories at the high school, for \$3,900.

Jersey City, N. J.—Joseph H. Entley was low bidder, at \$13,045, for furnishing all labor and materials required to erect a stone wall of granite at the Jersey City High School grounds, on Newark avenue, and three approaches to the building, one of which will be a massive stairway; James Whalen, of Hoboken, offered to do the same work for \$48,600; the M. T. Connolly Contracting Company, for \$46,600. For other work, on which Joseph H. Cutley and James Whalen did not bid, the M. T. Connolly Contracting Company asked \$6,000; for the construction of a stone wall at "Point Lookout," on the east side of the grounds, the M. T. Connolly Company bid \$2,400. There were three bidders for furnishing standards that will support the electric lights for the grounds. These standards are to be of handsome design and very ornamental. The Browne Company, of Newark, bid \$9,177 for furnishing 44 standards in solid bronze, and \$2,793 for the same in cast-iron; Cassidy & Son Manufacturing Company, of New York, asked \$4,320 for the cast-iron standards, \$7,180 for them in electro-bronze finish, and \$11,660 for them in solid bronze; L. Perelson, of New York, asked \$17,800 for the standards in bronze. For wiring the grounds the Jersey City Electric Company asked \$1,950; the Watson-Flagg Engineering Company, of New York, \$2,600, and Eugene Frank, of New York, \$1,685. For sodding and seeding the grounds per square of 100 feet the bids were: M. T. Connolly Contracting Company, \$5 per square for sodding and \$3 for seeding; John Cairns, 49 Armstrong avenue, \$4.80 for sodding and \$3 for seeding; and Charles Campbell, of 10 Garrison avenue, \$4.50 for sodding and \$2.50 for seeding.

Detroit, Mich.—Ferdinand Porath & Son have been awarded contract for paving Longfellow avenue, at 34 cents in excess of the lowest bid, submitted by W. N. Hatch & Sons, on recommendation of the Commissioner of Public Works, who holds that the Hatch firm has all the work it can possibly do this season.

Hallock, Minn.—Ole Paulson, of Pemberton, N. D., and Axel Spenberg, of Hallock, were the only bidders for constructing septic tank, 10x14 feet, reinforced concrete 1:2:5, 12-inch thickness, 16-foot trench, clay excavation, at \$1,590.—J. E. Carroll, Crookston, Consulting Engineer.

St. Louis, Mo.—The Board of Public Improvements has let contracts for twelve streets, aggregating \$292,895.96, and alleys aggregating \$47,334; bids were asked for on streets around the Merchants' Exchange, to be reconstructed with wood blocks, to replace the granite paving now in use; the list of contracts let and bids asked for follows: Virginia avenue, from Arsenal to Pestazolli street, G. Eyermann & Brother, \$5,441.04; Carter avenue, from Warne to Newstead avenue, J. E. Perkinson, \$37,986.13; Angelica street, from Eleventh street to Blair avenue, James T. McMahon, \$6,215.35; Euclid avenue, from Greer to Ashland avenue, Fruin & Colnon, \$3,627.62; Bremen avenue, from Blair to Twenty-fifth street, J. E. Perkinson, \$21,696.22; Michigan avenue, from Davis to Dover streets, Fruin & Colnon, \$87,329.56; Ivory avenue, from Alabama to Steins street, and Michigan avenue, same, \$23,462; Hamilton avenue, from Easton to Cote Brillante, Skrainka Construction Company, \$5,773.56; Broadway, from Switzer to 285 feet south of Pelham, G. Eyermann & Brother, \$18,890.15; Broadway, from 285 feet south of Pelham to Hornsby avenue, Schneider Granite Company, \$39,372.50; Broadway, from Adelaide avenue to Carrie avenue, same, \$43,190.98.

Long Branch, N. J.—Bids for supplying Fire Department with rubber coats and boots have been received from: J. Goldstein,

coats \$4.46, boots \$4.10; Long Branch Shoe Company, T. A. Clancy, Manager, coats \$4.40 boots \$4.07; R. B. Storm, coats \$4; boots \$4.48.

Madison, N. J.—The question of sewerage at the election having been approved, bonds in the sum of \$125,000 will be issued to pay for the plant.

Newark, N. J.—The contract for collecting the garbage for five years has been awarded to L. J. Buckley & Co., of Glen Ridge, at a total for the five years of \$693,550. It is specified in the contract form that the firm collecting the refuse will incinerate it by a reduction system such as is used in Baltimore, Boston or Philadelphia. The contract goes into effect January 1, 1908. The price for each of the five year's work was: 1908, \$128,900; 1909, \$133,700; 1910, \$138,900; 1911, \$143,875; 1912, \$148,275. The other bidders and their total bids were: J. & B. Meyer Contracting Company, \$740,250; Van Keuren & Sons, \$795,000; George B. Aschenbach, \$737,500; and Henry Schneider, \$765,500. The bids in detail were as follows: J. & B. Meyer Contracting Company, 1908, \$138,750; 1909, \$143,000; 1910, \$148,500; 1911, \$153,000; 1912, \$157,000; total, \$740,250. Van Keuren & Sons, 1908, \$149,000; 1909, \$154,000; 1910, \$159,000; 1911, \$164,000; 1912, \$169,000; total, \$795,000. Geo. B. Aschenbach, 1908, \$137,500; 1909, \$142,500; 1910, \$147,500; 1911, \$152,500; 1912, \$157,500; total, \$737,500. L. J. Buckley & Co., 1908, \$128,900; 1909, \$133,700; 1910, \$138,900; 1911, \$143,875; 1912, \$148,275; total, \$693,550. Henry Schneider, 1908, \$149,500; 1909, \$149,500; 1910, \$152,500; 1911, \$154,000; 1912, \$160,000; total, \$765,500. The bids of the J. & B. Meyer Contracting Company and Van Keuren & Sons were \$56,750 and \$15,800 less, respectively, than the original bids handed in by them and rejected last month. Henry Schneider, last month, estimated \$697,500 for the contract, and raised his figures this month \$68,000. By awarding the contract to Buckley the city saved \$3,950 from the lowest bid at the previous contest.—M. R. Sherrerd, City Engineer.

Passaic, N. J.—Bid for pipe to extend the water main to Midland avenue has been accepted from the New York and New Jersey Engineering and Supply Company; 675 feet, or 14,000 pounds, at rate of \$40 a ton, and hydrant for \$30; labor and minor supplies will cost about \$110; a 2-inch water meter will cost \$50.

Paulsboro, N. J.—Contract has been awarded to Charles W. Titus for stoning streets at 95 cents per square yard; total, \$15,000.

Syracuse, N. Y.—Contracts for construction of the new Salina school have been awarded as follows: W. H. Gough, electric wiring; Joss Brothers, painting; John Burchell & Son, mason work; John R. Walsh, plumbing; John W. Gee, carpenter work. The awards aggregate \$83,000.

Proposals have been received for the paving of Court street, from North Salina street to Third North street, and Borden avenue, from South Salina street to Midland avenue. The bids are for asphalt, vitrified brick or block, and are under a 10-year guarantee. The Court street proposals submitted for asphalt, with stone curb, were as follows: Warner-Quinlan Asphalt Paving Company, \$46,188.70, with brick between street railway tracks, or \$45,602.70 with sandstone between the tracks; Central City Paving Company, \$41,599.50 with brick between the tracks, or \$45,994.50 with sandstone between the tracks; F. J. Baker, \$39,583.60 with brick between the tracks, or \$44,857.60 with sandstone between the tracks. The only bid on the alternative of asphalt street paving and combined curb was made by F. J. Baker, at \$40,445.92 with brick between the tracks, or \$45,719.92 with sandstone between the tracks. Alternative No. 3 called for brick or block paving with a stone curb, for which bids were opened as follows: Warner-Quinlan Asphalt Paving Company, \$46,188.70 with brick between the tracks, or \$45,602.70 with sandstone between the tracks; N. Marnell, \$38,409.75 with brick between the tracks, or \$43,683.75 with sandstone between the tracks; on Syracuse block paving the Marnell bid was \$39,545.75 with brick between the tracks, or \$44,233.75 with sandstone between the tracks. Central City Paving Company, \$41,932 with brick between the tracks, or \$46,327 with sandstone between the tracks. F. J. Baker, \$39,636.60 with brick between the rails, and \$44,910.60 with sandstone between the rails. For brick pavement with combined curb the bid of N. Marnell was declared informal. F. J. Baker bid \$40,491.80 with brick between the rails and \$45,765.80 with sandstone between the rails.

The Borden avenue contract is to be somewhat smaller than the Court street job, the cost being about one-third. The bids for asphalt pavement with stone curb were as follows: Warner-Quinlan Asphalt Paving Company, \$13,988.95; Central City Paving Company, \$14,308.65; F. J. Baker, \$14,318.91. For asphalt with combined curb the bids

were: Warner-Quinlan Asphalt Paving Company, \$14,431.75; Central City Paving Company, \$15,013.15; F. J. Baker, \$14,745.71. Alternative No. 3, covered brick or block paving with stone curbing, and the following bids were submitted: Warner-Quinlan Asphalt Paving Company, \$14,221.70; Central City Paving Company, \$14,540.40; F. J. Baker, \$14,691.56, a bid by Samuel Bonn being declared informal. For brick or block pavement with combined curbing bids were offered as follows: Warner-Quinlan Asphalt Paving Company, \$14,648.50; Central City Paving Company, \$15,229.90; F. J. Baker, \$15,092.76, the bid of Samuel Bonn being ruled out in this case also as being informal. The fifth alternative covered bitulithic pavement with sandstone curbing, the only bid being that of the Warner-Quinlan Asphalt Paving Company, of \$14,454.45. This company also bid on bitulithic pavement with combined curb, the proposal being \$14,865.25.

A contract for printing the biennial report of the Board of Education was awarded to the Dehler Press upon a bid of \$1.60 a page. The only other bidder was the Art Press, at \$1.91 a page.

For the furnishing of an exercising wagon for the Bureau of Fire a contract was awarded to Charles Schlosser's Sons, at \$185, they being the sole bidders.

All bids for furnishing 2,500 feet of 2½-inch cotton, rubber lined fire hose were rejected. Bids will be readvertised for, and a contract awarded at the next session of the Board. Instructions to advertise for bids for repairing the electric wiring at Croton school were given.

Bids for the grading of the roadway in Lexington avenue, from Allen street to Westcott street, were opened. The proposal of Albert Gaffey was \$1,170.75, and that of C. T. Hookway was \$1,591.

Thomas Talbot was awarded a contract for laying an asphalt floor in the stable of No. 3's fire engine house.

Troy, N. Y.—Contract for the construction of a new chemical and hose wagon for the Beman Park Hose Company has been awarded to Joseph Lecompte, at \$1,900; the bids from the Combination Ladder Company and the American La France Fire Engine Company for a sixty-five-foot hook and ladder truck have been rejected as being too high; the bids were each for \$5,000.

Alliance, O.—The McGinty Construction Company has a \$50,000 contract from the Commissioners of Jefferson county for building several miles of macadamized road in the vicinity of New Amsterdam.

Canton, O.—Messrs. Wise, Smith and Sheekles have the contract for constructing a storm water sewer in Navarre street, at \$9,400; the paving of driveways around the Pennsylvania freight-passenger stations has been awarded to Patrick Stanton; Metropolitan paving brick and cement will be used.

Cincinnati, O.—J. M. Hassett has the contract for the repair of the Sharonville pike, a distance of seven miles, at \$85,000.

Cleveland, O.—The Great Lakes Dredge and Dock Company has the contract for the construction of the revetment for the east bank of the river at Lorain, O., at \$50,000; the improvement will consist of 350 feet of tiling and concrete, together with a large amount of timber, etc.

Columbus, O.—D. W. McGrath has been awarded the contract for constructing the East Side sewage pumping station, at his bid of \$18,372.

Dayton, O.—Two sections of Roberts boulevard are to be paved, bids having been opened; J. C. Shoup & Company are low on wood block, at about \$28,000; J. E. Connely Company is low on macadam, and W. J. Fernan on vitrified brick; no contract has been awarded.

Contract for constructing the sanitary sewer on Hickory avenue has been awarded to William McCarthy & Company, at their bid of \$497.52. Paul & Kershner, contractors for the construction of the storm water sewer on Hudson avenue, were directed to construct 70 feet of extra pipe, at \$28.00.

The bids for the construction of buildings and improvement of the Bomberger Park playgrounds have been tabulated by W. E. Russ, Architect for the playgrounds, and his report has been given to the Board of Public Service. The following are the lowest bidders for each part of the work: John W. Boren, brick work, \$3,045; Michael Brothers & White, plastering, \$1,395.78; Louis F. Thiele, rubble masonry, \$1,076; C. A. Wintersteen, sheet metal and roofing, \$1,305.30; Dayton Asphalt Roofing and Paving Company, concrete, \$7,688; Ware & Moodie, plumbing and heating, \$3,975; Engle & Gohn, carpentry, \$7,500; Wellmier Brothers, painting, \$440; Irvin Geiger, excavating, \$3,200; Dayton House Wrecking Company, wrecking, \$345. The total of the individual bids is \$29,970.07, which would complete the work. George B. Hicks bid for the complete work except wrecking, \$30,000; the bid of Hicks,

together with the Dayton House Wrecking Company's bid for wrecking, is \$30,345, this being \$374.33 more than the total of the bids for the work if let to the separate contractors. The Board is now considering whether or not it would be of advantage to the city to give the entire contract, except the wrecking, to George B. Hicks for \$30,000, thereby having one contractor to do the work, instead of eleven different contractors.—Robert E. Kline, City Engineer.

Bids for the several street, sewer and alley improvements have been received as follows: On sanitary sewers in Sewer District No. 4, bounded by Wayne avenue and Wyoming street and the old corporation line, two bids were filed, as follows: Shafer & Dill, \$13,260.50; John T. Reese, \$13,372.50. For the sewers in Findlay, Gerlaugh and Bierce streets, and connecting alleys, the following bids were received: Backus Construction Company, \$2,813; C. F. Sullivan, \$2,878.80; J. T. Reese, \$2,918.40.

Bids for the paving of two sections of Roberts boulevard were received as follows, on estimated totals: First section, Third to Fifth street, J. O. Shoup & Co., creosoted wood block \$7,303, plain macadam \$4,038.20; J. E. Conley Company, bituminous macadam \$4,928, plain macadam \$4,186; William J. Kernan, vitrified brick \$5,182, plain macadam \$4,228; Al Wroe & Son, brick \$5,182. Asphalt: Barber Asphalt Company, \$5,818.40; Kirchner Construction Company, \$5,881.60; Andrews Asphalt Paving Company, \$5,902.80. Second section, from Monument avenue to Third street: J. O. Shoup & Co., wood block \$19,382.50, plain macadam \$10,142.50; J. E. Conley Company, wood block \$20,089, bituminous macadam \$12,589, plain macadam \$10,489; W. J. Kernan, vitrified brick \$13,260, plain macadam \$10,560; Al Wroe & Son, brick, \$13,260. Sheet asphalt: Barber Asphalt Company, \$15,109; Kirchner Construction Company, \$15,240; Andrews Asphalt Paving Company, \$15,305.

Bids on first alley west of Western avenue, from Second street to Coate avenue: John Maher, cement, \$1,295.40; Frank Munger, cement, \$1,305.60; J. E. Conley Company, Logan block, \$2,060.50; cement, \$1,377. Bids on first alley west of Clemmer street, from Coate avenue to alley north of Third street: Frank Munger, cement, \$1,766.40; John Maher, cement, \$1,766.40; J. E. Conley Company, Logan block, \$2,731; cement, \$1,863. Bids on alley west of Cincinnati street: William Kirchner, brick, \$1,240.50, cement, \$761.10; Frank Munger, cement, \$796.50; J. E. Conley Company, brick, \$1,202.25, cement, \$796.50; Al Wroe & Son, brick, \$1,255, cement, \$973.50.

Fostoria, O.—Albert Jacobs has the contract for improving Popular and Union streets; the improvement will be 1,600 feet long, and the road will be given 12 inches of stone and rolled a sufficient number of times to make a first-class street.

Ironton, O.—The Board of Public Service has awarded to Thatcher & Co. the contract for constructing the pure water system; their complete bid is \$52,700.

Paulding, O.—Contractors Lamp and Beaty, of Van Wert, are low bidders for constructing the sewer on West Jackson street, at \$1,821, and have been awarded the contract.

Wauseon, O.—The estimate of the Engineer for paving Depot and Commercial streets has been accepted, amounting to \$5,500; this contract was made to Lefner & Sons.

Allentown, Pa.—Bids have been opened by Alliance Town Council to supply a new chemical engine, as follows: The American-La France Fire Engine Company, Culbertson & King, Agents, of Allentown, for the Holloway combination chemical engine and hose wagon was \$1,850 f. o. b., Elmira, N. Y., and allows \$500 for two chemical engines now in use. Robinson Fire Apparatus Manufacturing Company, St. Louis, Mo., Henry R. Earley, selling agents, for special No. 6 combination chemical and hose wagon was \$1,786 f. o. b. Northampton, and \$400 for old chemicals. Combination Ladder Company, Providence, R. I., Howard Story, representative, Burlington, N. J., for a figure 80 combination chemical engine and hose wagon was \$1,600 f. o. b. Northampton, and allowed \$500 for the old chemical engines, f. o. b. Providence, R. I.

Chester, Pa.—Contract for erecting new fire house has been awarded to Frank Shee, at his bid, \$9,300.

Harrisburg, Pa.—Contract for paving Maclay street, from Front to Third, has been awarded to the Warner-Quinlan Company; the Maclay street job is 3,800 yards; Warner-Quinlan bid \$1.98 per yard and 99 cents for curb; Barber bid \$1.99 for asphalt and \$1.25 for curb. Contract for paving Chestnut street, from Sixteenth to Seventeenth, has been awarded to the Barber Company; the job is 1,400 square yards, and the Barber bid \$1.93 for asphalt and \$1 for curbing, while the Warner-Quinlan bid \$1.96 and \$0.99.

Two other bids were also opened, but no

award was made. For resurfacing Walnut street from Third to Filbert the Barber bid \$2.25 and the Warner-Quinlan \$2.46. The yards number 4,100.

For the triangle at Race, Vine and Paxton streets the Barber bid \$2.43 and the Warner-Quinlan \$2.46.

The York Bridge Company, at its bid of \$54,945, has been awarded contract for the construction of a bridge across the Susquehanna river at Jersey shore. The Penn Bridge Company, of Beaver Falls, at its bid of \$8,389, has received contract for a bridge across the Nescopec creek at Nescopec.

Philadelphia, Pa.—Contract for repairing streets on which the Rapid Transit Company's tracks are located has been awarded to D. J. McNichol & Co.; estimated cost, \$750,000; contract for asphalt paving was awarded to the Filbert Paving and Construction Company; work on Park avenue and on Orkney street to the Barber Asphalt Company.

Cunningham & Murray and the Mack Paving Company will share the contract for paving about ten miles of streets with vitrified brick. The average price submitted by the first named firm was \$1.95 a yard, while the Mack Company's prices range from \$1.92 to \$2.06 a yard. About five miles of granite block paving will be laid by Cunningham & Murray and the Mack Paving Company; the prices range from \$2.77 to \$3.05 a yard. The Mack Paving Company was awarded the brick paving work, its bid ranging from \$1.92 to \$2.07.

Robert Patton has been awarded contract for constructing drive in Cresheim Valley, Wissahickon, Fairmount Park, his bid being as follows: Borrowed material, 43 cents per cubic yard; earth excavation, 30 cents per cubic yard; rubble masonry, retaining wall, channel and culvert, \$4 per cubic yard; concrete foundation, \$4.50 per cubic yard; cinders, 40 cents per cubic yard; rock excavation, 70 cents per cubic yard; paving in culvert and channel, 90 cents per cubic yard; Telford road, 80 cents per square yard; sodding, 15 cents per square yard; basins, \$15 each; 8-inch terra cotta pipe, 45 cents per lineal foot.—Jesse T. Nogdes, Chief Engineer and Superintendent.

Wilkes-Barre, Pa.—The contract for excavating and back filling sewer trenches on several streets has been awarded to Rosser & Harkness, for \$7,851.73; the contract for furnishing sewer pipe and fittings for the sewers has been awarded to George N. McAlarney for \$791.84; D. M. Rosser also bid on the excavating.

A contract for a period of five years has been entered into between the city and the Spring Brook Water Company to supply water for fire hydrants, etc., in the city.

Dallas, Tex.—Bids will be advertised for paving Ervay street with a vitrified brick pavement or vitrified blocks.

Fort Worth, Tex.—Suderman & Dolson, Contractors of Houston and Galveston, were awarded the contract for grading the Fort Worth, Weatherford, and Mineral Wells interurban line, and work is to be started, near Lake Como; it is estimated that the interurban will cost \$1,700,000, or \$30,000 per mile; this includes rolling stock and power plant.

Seattle, Wash.—Dicken & Rightmire have been awarded contract to construct Hiawatha place sewers, for \$7,334; Smith & Hall bid \$7,756; no bids were received for constructing the Thirty-ninth street sewers.

Spokane, Wash.—Mayor C. Herbert Moore and the Board of Public Works have awarded contract for paving Ninth avenue, from Monroe street to Walnut street, with asphalt, to the Independent Paving Company, for \$15,800; maintenance, ten years, for \$1,500; the City Engineer's estimate was \$18,823.40; this is the first residence street on which a paving contract has been awarded.

Contract for city lighting has been awarded to the Washington Water Power Company; the company is to receive \$48 per annum for all are lights in the city for which it furnishes electricity; the contract is for five years, but will extend somewhat over that time, as the general average time for all lights maintained is to be five years.

Tacoma, Wash.—Contract has been awarded to the Seattle-Tacoma Power Company to furnish electric power to the city, at its bid of a cent and a quarter per kilowatt hour, 5,000 maximum horsepower, for a term of five years.

Morgantown, W. Va.—Contractors Zevely & Castro are low bidders for the construction of the culvert fill over Deer Hollow, at their bid of \$18,000.

Montreal, Can.—Titus Fitzgerald & Co., of New York City, have offered to sink artesian wells; they state they would be willing to supply Montreal with water of approved quality at the rate of \$70 a million gallons, and that they would accept payment in installments only after the plant was in operation; then, in about seven or eight years, the city would own the plant.

TRADE NOTES

Acetylene Lights.—The Gem City Acetylene Generator Company, Dayton, O., said to be the largest company of its kind in the country, has grown in four years from a private company with \$25,000 capital to an incorporated company capitalized at \$200,000. The company is now shipping its machines at the rate of sixty a day; it maintains branches in Oklahoma, Rochester, N. Y., and New York City. A total of 250 salesmen cover the rest of the country.

Automatic Telephones.—Preliminary terms have been agreed upon by three-fourths of the shareholders of the Strowger Automatic Telephone Exchange whereby the company will pass to the control of the Automatic Electric Company, thus ending two years and a half of litigation and enormous financial losses to both companies. If all the Strowger shareholders assent to the terms, that company will go out of existence and all its assets, patents and patent rights, both in the United States and in Europe, will become the property of the Automatic Electric Company.

Concrete Bridge.—The Whitehall Portland Cement Company, Philadelphia, Pa., has issued a little pamphlet illustrating and briefly describing the concrete bridge spanning the Wissahickon creek and connecting Roxborough and Germantown.

Concrete Piles.—The Simplex Concrete Pile Company, 115 Broadway, New York City, has recently issued a new edition of the catalogue which describes and illustrates some recent uses of Simplex concrete piles. Naturally, most of the pamphlet is devoted to building foundations, but some uses in connection with public works are given, as in the case of the Clinch avenue viaduct, Knoxville, Tenn., a viaduct at South Omaha, Neb., and the pumping filtration plant, Philadelphia, Pa.

Crematory.—The Dixon Engineering and Construction Company, engineers and contractors for municipal sanitary utilities, Toledo, O., has published a handsomely illustrated pamphlet regarding the Dixon system. A photograph of the garbage crematory at Lexington, Ky., occupies the first page, and a brief description of the plant, with testimonials

regarding its operation, follows. Other crematories mentioned are those at Uniontown, Pa., Shreveport, La., Sewickley, Pa., Wabash, Ind., Greensburg, Pa., Mansfield, O., and Joliet, Ill. Illustrations and reports of several of these crematories are included.

Electrical Apparatus.—The General Electric Company, Schenectady, N. Y., in Bulletin No. 4534, describes Curtis steam turbines as developed especially for driving horizontal shaft generators. Bulletin No. 4530 describes mercury arc rectifier, used for producing direct current for charging storage batteries and other commercial purposes. Bulletin No. 4533 describes the Wright Demand Indicators, a device for registering the maximum ampere demand of appreciable duration in any electrical circuit.

Generators.—The B. F. Sturtevant Company, Hyde Park, Mass., has sold to the Hudson Companies, Jersey City, N. J., three 10x18x10-inch vertical cross-compound engines with 100-kw. generators; one 8x14x8-inch vertical engine, 50-kw. generator; two 8x14x8-inch vertical engines, 50-kw. generators; two 12x10-inch vertical engines, 50-kw. generators.

Factory Addition.—The Best Light Company, manufacturers of the Best Incandescent Vapor Street Lamps for gas, gasoline and kerosene, gasoline burners, fixtures, valves, etc., is building an addition to its plant which will permit a considerable increase of output.

New Light.—The "Titania" carbon light, manufactured by the General Electric Company, is being used experimentally on the streets of Hartford, Conn., by the Electric Light Company. President Dunham, of the lighting company, is authority for the statement that the "Titania" is 50 per cent. better than the old lights. After a six months' trial, with the approval of the city authorities, he proposes to install these lights throughout the city at a cost of \$50,000.

Instruction Book for Motors.—The Allis-Chalmers Company, Milwaukee, Wis., issues a book of instructions for the installation and operation of direct current motors and generators. The book takes up the matter of suitable location of machines and proper foundations. The method of setting up belted and direct connected machines of the

principal types and sizes is given. Minor details are explained regarding trimmings, brush holders, brushes, bearings and wiring. Proper methods of starting machines are described. Considerable space is given to questions that arise in cases of parallel operation of machines. The book is well illustrated with diagrams.

Motor Fire Engine.—Messrs. Hall & Co., Tacoma, Wash., have been granted permission to use a small fire engine for a period of ninety days to demonstrate the feasibility of steam propulsion. The request was given on condition that they give the city an indemnifying bond of \$2,000 to cover possible damages, and that the propelling attachment become the city's property on the completion of the test.

Power Pumps.—The Goulds Manufacturing Company, Seneca Falls, N. Y., has issued a new booklet illustrating in an artistic way quite out of the ordinary run of printed matter on pumping equipment, a large number of applications in which its power pumps are used. The frontispiece shows a triplex power pump operated by a motor. Another cut shows as a driving connection, a silent chain with sprockets for direct connection to electric motor; another shows a cast-iron intermediate gear and rawhide pinion with auxiliary shaft extended and fitted with flanged coupling for direct connection with motor; two methods of belt gearing are also shown.

Sewerage Company Plant.—The Indiana Sewer Pipe and Drainage Company, Vincennes, Ind., owner of the Norton Church street sewer, has torn down the old pumping plant at the foot of Church street, and is arranging to erect a much larger and more substantial building at the same point. The building will be erected on an immense concrete foundation, which will be strong enough to resist the Wabash when at high tide, and the floor of the structure will be several feet higher than the old one, in order to place it above the high record high water level. It is reported that the company will install an electric motor in the building this time, for furnishing the power to operate the sewer pump in time of high water, as the vibration from the immense gasoline engine which was used in the old building was to a great extent responsible for the wrecking of the old pump house.

LOWEST BIDS FOR CURBS

RESETTING OLD			SETTING NEW		
Lineal Feet	Character of Work	Contract Price	Lineal Feet	Character of Work	Contract Price
SEWICKLEY, PA.					
5,500	On stone.....	.24	550	On stone.....	.68
CLARION, PA.					
		9.006		Sand stone.....	.60
OAKMONT, PA.					
		4.300		Concrete, 16" on 6" of slag.....	.83‡
CLEVELAND, O.					
				Cement.....	.32
DILLONVALE, O.					
2,080	5 x 20 stone.....	.08	1,772	6 x 24 cement.....	.44
WOOSTER, O.					
		6.200		Berea stone, 5" top, 20" deep.....	.45
			222	Same curved.....	.75
LINDSEY, O.					
		4.720	4 x 20.....		.36
				Circle curb.....	.45
WAUSEON, O.					
45	Dressing and resetting	.15		6 x 18 Cement.....	.35
				Curb and gutter...	.70
WELLSVILLE, O.					
840	6 x 24 x 36 stone...	.15	2,000	6 x 24 x 36 stone...	.52
CONNERSVILLE, IND.					
		2.100		Curb and gutter...	.52‡
GOSHEN, IND.					
		5.050		Curb and gutter...	.31
FREEPORT, ILL.					
		12.686		Sandstone.....	.54
		31.460			.65
EDWARDSVILLE, ILL.					
		12.760		Granitoid curb and gutter; 8" curb, 6½ x 24 gutter...	.73
MASON CITY, IA.					
		4.900		Cement.....	.40
DECATUR, ALA.					
3,000	Stone.....	.06	4,000	Concrete.....	.28
PENSACOLA, FLA.					
		115.950		6 x 16 concrete....	.42

† Includes redressing. ‡ Includes 10" x 2" gutter.

Turbine Pumping Engine.—The Westinghouse Machine Company, Pittsburg, Pa., has received an order for three 750-horsepower turbine engines, one of which will be direct connected to a centrifugal pump making under normal pressure of 175 pounds 1,800 revolutions per minute. It is estimated the pump will throw 4,000 gallons per minute.

Vacuum Pipe Lines.—John W. Schroeder, of the Vacuum Cleaner Company of the United States, has interested capitalists in Salt Lake City, Utah, in his enterprise, and there will soon be an incorporation of a Utah branch of the company, with headquarters in Salt Lake. The scheme embraces the erection of a plant, in which will be situated an immense engine for creating a vacuum in pipe lines. The city is to be piped as it would be piped for gas or water, with the exception that the pipes, through a new process, are made airtight and are laid just beneath the gutters about town and into houses.

Wood Paving.—The United States Wood Preserving Company of New York is being sued by Andries Bevier of Nyack, N. Y., formerly President of the company, for an accounting of the last few years' profits. Bevier claims that within the last three years between 350,000 and 450,000 yards of paving have been laid at a profit of 75 cents a yard.

PATENT CLAIMS

867,366. Dumping Wagon. John Heberling, Rochester, N. Y. Serial No. 294,837.

In a dumping wagon, the combination with a box and a movable bottom therefor; of links pivoted to the side of the box and movable longitudinally thereof, hinge connections between the links and the bottom and means for operating the latter.

867,481. Prepayment Meter. Frank P. Cox, Lynn, Mass., assignor to General Electric Company, a Corporation of New York. Serial No. 644,553.

In a coin-controlled electric meter mechanism, the combination of a motor mechanism driven by the current in the consumption circuit, and comprising coarse and fine wire windings, a switch for closing the circuit of the coarse and fine windings and also the consumption circuit, coin-controlled means regulating the operation of the switch, and a magnet controlled by the meter mechanism for causing the interruption of all of the said circuits including its own after a prepaid amount of energy has been consumed.

867,488. Apparatus for Lighting and Extinguishing Gas Lamps. Edmund H. Elton and Richard Stephens, Clevedon, England. Serial No. 387,361.

An apparatus of the class described comprising a gas chamber having a gas supply inlet, a main and a pilot burner connected to said chamber, a valve controlling the passage to each burner, a rocking lever adapted to open and close said valves in alternation, adjustable reacting means acting upon said lever tending to keep the valve of the main burner normally closed, and a flexible expansible element having connections for overcoming the tension of said reacting means to positively rock said lever and reverse said valves on increase of pressure within the chamber, substantially as described.

867,491. Centrifugal Pump. Charles A. Frayer, Chicago, Ill., assignor to Allis-Chalmers Company, Milwaukee, Wis., a Corporation of New Jersey. Serial No. 256,900.

In a centrifugal pump, the combination of a casing, a runner therein, chambers for liquid under pressure exceeding pump pressure on opposite sides of the runners between it and the casing, and discharge passages from the chamber adjacent the axis and periphery of the runner, whereby balancing of the runner is maintained and the runner is kept free from grit.

867,494. Fire Alarm Telegraph System. Man-lous Garl, Akron, Ohio. Serial No. 283,626.

In a fire alarm telegraph system, a normally closed line circuit, alarm transmitting appliances connected therein, a normally open ground circuit, suitable alarm apparatus therein, and a normally open local alarm circuit, said local circuit being closed by the breaking of the line circuit, and said ground circuit being closed and opened alternately with said line circuit.

INCORPORATIONS

American Concrete Company, Chicago, Ill.; to manufacture concrete pipe, piling, posts and blocks; capital, \$30,000. Incorporators: G. H. Scribner, Jr., W. C. Spalding, R. W. Lawson.

Emile Bachelet Company, Catskill, N. Y.; to manufacture electrical, magnetic and mechanical devices; capital, \$50,000. Incorporators: Emile Bachelet, 253 Bainbridge street; J. Aubrey Vaughan, 91 Halsey street; Charles Francis, 133 Quincy street, all of Brooklyn, and others.

Buckley Engineering and Construction Company, New York, N. Y.; engineering, building and contracting; capital, \$1,000,000. Incorporators: Ernest Wander, 206 East Ninety-sixth street; Theodore S. Barnes, 624 Madison avenue; Richard P. Lydon, 35 Nassau street, all of New York.

Chicago Heat, Power and Refrigeration Company, Chicago, Ill.; public utility plant; capital, \$10,000. Incorporators: W. F. Brennan, Frederick W. Blocki, Joseph P. Early.

Empire Monument Company, Jersey City, N. J.; to mine and quarry, contractors, engineers, etc.; capital, \$125,000. Incorporators: Charles N. King, George G. Russell, Jacob B. Merseles, as above.

Hilton Coupling Company, Portland, Me.; hose couplings, etc.; capital, \$200,000. President, R. C. Hilton, Wollaston, Mass.; Treasurer, W. W. Knight, Hopedale, Mass.; Clerk, C. P. Mattocks, Portland, Me.

Housford Power Company, Hickory, N. C.; capital, \$125,000. Incorporators: A. A. Shuford, J. D. Elliott and others.

International Generator Company, Westfield, Mass.; gas generators, etc.; capital, \$100,000. President, Moses E. Moore, Westfield; Treasurer, Forrest F. Moore, Westfield; Clerk, Forrest F. Moore, Westfield.

Kinzua Valley Paving Block Company, Camden, N. J.; to manufacture paving blocks, brick and building brick; capital, \$200,000. Incorporators: Mathias A. Madison, Kuchewa, Pa.; Clarence D. Lamb and S. E. Lewis, as above.

Lutherville Water Company, Towson, Md.; capital, \$25,000; to supply water to Lutherville. Incorporators: Judge Frank I. Duncan and J. Robert Wood, David A. von Reisen, Jonathan K. Voshell and Edmund S. Dickey, of Baltimore county, and Edward Markell and Gebhard Leimback, of Baltimore city.

M. H. McGovern Company, 1302 Chamber of Commerce, Chicago; general contractors; capital, \$25,000. Incorporators: Otto E. Neihoff, Margaret T. McGovern, M. H. McGovern.

Millerton Electric Light Company, Millerton, N. Y.; light, heat and power; capital, \$7,500. Incorporators: J. Henry Rooabach and H. E. Lyle, Canaan, Conn.; Dan J. Gleason, Millerton, N. Y.

Olson - Boettger Electric Manufacturing Company, 200 West Third street, St. Paul, Minn.; to install lighting and power plants and manufacture small motors; capital, \$50,000. Incorporators: H. C. Boettger, J. L. Olson and H. S. Olson.

Ontario County Mutual Telephone Company, East Bloomfield, N. Y.; telephone line; capital, \$30,000. Incorporators: B. A. Partidge and Oliver Dibble, East Bloomfield, N. Y.; C. R. White, Ionia, N. Y., and others.

Public Utilities Company, Wilmington, Del.; capital, \$100,000. Incorporators: D. L. Sage, Philadelphia; G. B. Lewis and Ralph C. Lipton, Wilmington, Del.

The Sunbury and Selinsgrove Electric Railway Company, York, Pa.; to build and operate a trolley road. Incorporators: W. H. Lyons, Sunbury, President; L. G. Brown, P. M. Harrison and G. W. Drury, of York; and Boyd Musser, Scranton.

Sussex Construction Company, Atlantic City, N. J.; contractors, etc.; capital, \$100,000. Incorporators: John C. Reed, Atlantic City, N. J.; Heverin S. Reed and John W. McManus, Philadelphia; John M. Campbell, Somers Point, N. J.

Thomas Cement Construction Company, Wilmington, Del.; capital, \$100,000. Incorporators: Harry W. Davis, Wilmington, Del.; F. J. Skeel and C. E. Antram, Joliet, Ill.

Western Illinois Electric Traction Company, Chicago, Ill.; capital, \$100,000; to construct trolley road from township of Lyons in Cook county through the counties of Cook, Dupage and Kane to Aurora. Incorporators: M. M. Miller, Edmund J. Schmidt, Louis Grollman, Leo Michael and William M. Klein.

William Ficklen Company, Brooklyn, N. Y.; contracting and engineering; capital, \$50,000. Incorporators: William E. Ficklen, 629 Park place, Brooklyn; J. Walter Robertson and John J. Bergan, 42 Broadway, New York.

J. J. Smith, Inc., Newark, N. J.; to construct, dig and sink artesian wells; capital, \$25,000. Incorporators: Joseph J. Smith, as above; Peter Smith, South Eighth street; Francis Smith, corner Lafayette and Adams streets, both of Newark, N. J.

Proposals

FURNISHING AND LAYING SEWER PIPE AND BUILDING DISPOSAL WORKS

Auburn, N. Y., Oct. 12, 1907.

Sealed proposals will be received by the Mayor, Hon. E. C. Aiken, until 8 p. m. December 3, 1907, for the construction, first, of sewers and appurtenances thereto; second, for the construction of a disposal works for said sewer system. The sewers to consist approximately of the following: 14,700 feet of 8-inch, 11,300 feet of 10-inch, 6,000 feet of 12-inch, 3,600 feet of 15-inch, 300 feet of 18-inch, 1,250 feet of 20-inch.

Excavation varies in depth from 5 to 18 feet. There will be approximately 16,000 cubic yards of excavation, a part of the same being in solid rock. There will be about 17,000 feet of 5-inch vitrified tile for house sewer connections to be laid from the main sewer to the curb line. There will also be laid in the main trench and underneath the main sewer, as ground water demands, subsoil drains about as follows: 20,000 feet of 4-inch, 6,000 feet of 6-inch, 7,000 feet of 8-inch, 2,000 feet of 10-inch, 200 feet of 12-inch. All of the subsoil drain tile to be vitrified tile known as seconds. 84 manholes with an average depth of 9 feet, 12 flush tanks, 12 lamp holes.

The disposal works consist of reinforced concrete, septic tanks and contact beds, and automatic appliances for dosing them.

For the sewers a bond for an amount equal to double the gross amount of the contract, or a certified check for \$5,000, will be required of all bidders. For the disposal works a bond for an amount equal to double the gross amount of the contract, or a certified check for \$2,500, will be required of all bidders. The contract will be let in two sections—section 1 to consist of all sewers and appurtenances to the same, and section 2 of the disposal works. Bidders may bid on either or both. The Common Council reserves the right to reject any or all bids. Specifications, general plans and blank forms of proposal may be seen at the office of the City Engineer, J. Walter Ackerman, and will be ready for distribution November 1, 1907.

J. S. HANLON,
City Clerk.

WATER WORKS

Tucson, Ariz.

Sealed bids will be received at the office of the City Recorder of the City of Tucson, Pima County, Arizona Territory, until 8 o'clock p. m., of the 4th day of November, 1907, for the furnishing of all material and labor for the construction of a system of water works for said city, according to the plans and specifications now on file in the office of said City Recorder in the City Hall in said city of Tucson. All bids shall be made with the proviso in said bid contained that the bidder, if successful, will accept his pay for the work to be done, and material furnished, in fifty-year bonds of the city of Tucson, at par, said bonds to bear interest at the rate of 4½ per cent. per annum, interest payable semi-annually. A certified check in the sum of ten thousand (\$10,000.00) dollars, payable to the city of Tucson, must accompany all bids. The check of the successful bidder to be forfeited to the city of Tucson in the event said successful bidder shall fail to enter into a contract with said city for the construction of said system of water works, and furnish a good and sufficient bond for the construction of same, said bond to be approved by the Mayor and Common Council of the city of Tucson. The Mayor and Common Council of the city of Tucson reserve the right to reject any and all bids. A certified copy of the plans and specifications of said proposed water system will be sent to prospective bidders upon application to the City Recorder of said city of Tucson, accompanied by ten (\$10.00) dollars.

For further information, address "Superintendent of Water Works" or "City Recorder," Tucson, Pima County, Arizona Territory.

CHAS. F. SLACK,
Mayor.
FRANK S. TREAT,
City Recorder.

WANTS

MUNICIPAL engineers, experts, chemists, wanted for positions in all parts of the world; also openings for sales and technical men; write to-day, Hapgoods, 305 Broadway, New York; or 1010 Hartford Bldg., Chicago.

ENGINEER, thoroughly experienced in designing, detailing and estimating all classes of steel work, desires responsible position in New York City. Address No. 421, care Municipal Journal and Engineer.